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THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association

VOL. IX GARDENVALE, P. Q., JANUARY, 1922 – DEC. 1922 No. 1-12

(V. 9 1922)

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-:- EDITORIAL -:-

IS SEPARATE DEPARTMENT DUE?

It is a real pleasure to note that the Hon. Mackenzie King in framing his cabinet, relieved the Minister of Marine and Fisheries of the administration of the Naval Service Department. For a few years previous to 1920 Naval Service and the fisheries were united under a single deputy minister. The association was grotesque; it was ludicrous. It is doubted if the austere and intricately technical naval documents and reports felt comfortably at home with fish cook books on the same shelf. They were companions of oil-and-water consistency. Subsequently our fisheries were grouped under a single deputy of marine and fisheries and the companionship is not a bit more appropriate.

That the Hon. Mr. King has taken a big department from the minister of marine and fisheries seems to augur well for the ultimate segregation of the fisheries under a deputy minister. Those engaged in the fishing industry in all parts of the country are insisting upon this. For the past year the Canadian Fisherman has consistently argued the case, and prominent organizations such as the Canadian Fisheries Association, the Canadian Manufacturers' Association, Boards of Trade, etc., have urged it forcibly. The general demand for this reform and the logic of the arguments advanced cannot but appeal to the new prime minister. He has already made some commendable changes in the arrangement of portfolios, such as grouping the Naval Service, Air Board and Militia Department under one minister, and linking up the Departements of Health and Soldiers Civil Re-establishment; and we feel quite justified in anticipating his consideration for the needs of the fishing industry.

The new Minister, Hon. Ernest Lapointe, will have a splendid opportunity of impressing the industry at the National Fish Day banquet and what he will have to say with reference to the future of fisheries administration will have considerable influence upon affairs.

THE TRADE HAS A STAKE.

High hopes had been entertained for a happy solution of the sockeye salmon problem of Puget Sound and the Fraser River at the joint conference of Dominion government and Washington State fishery officials. After nearly a quarter of a century of fruitless endeavors to co-operate for the conservation of the valuable species, a definite basis of practical negotiation had been established. The Fishery Advisory Board of Washington had secured plenary power and the Canadian delegation was clothed with wide authority. It was natural, therefore, that a solution should have been anticipated. The two groups came together on December 12 in Vancouver, adjourning the following day, and the only important result of the meeting was the tragic announcement that no agreement had been reached on the vexed question. The groups parted. Not only was the long-hoped-for conference a miserable failure, but the situation at adjournment seems to have definitely closed the door. There is little welcome entertained on either side, apparently, for reopening the discussion in the near future. And as time goes on the sockeye species hastens on its course to depletion. The unpleasant truth must be faced that the sockeye's days are numbered. What a spectacle!

We are not in a position to definitely place the responsibility for the failure of negotiations, but there are certain contributing factors which appear quite obvious. Press reports declare the stumbling block to an understanding was a difference of opinion as to what methods of fishing should be employed five years hence in Puget Sound. That the species needed immediate protection for that length of time was an unanimous view. It is understood that the assistant deputy minster of fisheries at Ottawa, who headed the Canadian group, maintained that unless the use of purse seines in sockeye areas was permanently barred, it would be useless from the Canadian viewpoint to forego the commercial advantages of fishing during the next half decade. This view is quite logical, the purse seine having been condemned long since as being too destructive to the species. At the same time a tremendous responsibility was assumed by cutting off negotiations.

When the conference met the problem was to devise a joint understanding for the rehabilitation of the sockeye. When it adjourned this had been settled in principle, but the new problem arose as to methods of fishing when it should be resumed five years from now. The most important point of all—co-operation—had been definitely achieved. Was the new problem absolutely insurmountable? Was the industry on the Pacific Coast consulted before it was agreed to disagree? The salmon interests of British Columbia have many millions of dollars invested. They have more at stake than anyone else in Canada and its seems reasonable that their wishes should have been consulted.

The foregoing point brings us to an elementary principle in this and similar negotiations upon which the fishing industry as a whole should seek an understanding. The merchandizing of fish constitutes the indus-

try. Without the business of fish merchandizing there would be no occasion for fishery regulations and conservative measures. Everything hinges upon the commercial branch of the industry. Laws and regulations are made for the purpose of improving conditions for fish merchandizing and making the resource more valuable, and they will be necessary just so long as it is profitable for Canadian citizens to engage in the business. Any legislation — whether it be an international agreement or some domestic matter — affects the commercial branch of the industry and it alone. As a matter of principle it is logical that it should be consulted on contemplated legislation and that it should be represented on boards or tribunals which sit upon commercial fishery matters. It is only by such a policy that the department at Ottawa will have the entire confidence of the industry.

There was no practical salmon canner on the Canadian delegation to the sockeye conference although the Washington State group included three. The attitude the Canadian group took may have conformed entirely to the wishes of the canners who had millions of dollars at stake. And then again it may not have. Would not the Canadian delegation have felt a little more confident had a representative of the salmon canners sat on the board and endorsed its views; and would not such a representative have inspired greater confidence all around? Nobody would doubt the sincerity and good intentions of Mr. W. A. Found. His deep interest and honest endeavor to administer the departement well are thoroughly appreciated. It is merely the policy of excluding the commercial interests from these vital discussions which prompts criticism.

We trust that the sockeye discussions will be resumed in the immediate future. The species is too valuable to retard strict conservatice measures a year longer. If the issue now is upon methods of fishing five year hence why not refer it to the cannerymen of British Columbia. They have a lot at stake and may be depended upon to find a means of striking a compromise. There is no one who has a greater interest in the future of the fishery than they.

INSHORE FISHERMEN TO RACE, TOO.

The enthusiasm, not only of the fishing element of the Nova Scotia population, but of people in all walks of life as well, over the international schooner races, is best demonstrated by the fact that an annual competition among the inshore vessels is now being organized. The Morning Chronicle of Halifax has offered a trophy and there is every indication that the event will be conducted this fall as a preliminary to the international elimination races. It is a good idea and we trust that nothing will happen to prevent its execution.

In a recent issue, the Chronicle explains how the scheme originated. It resulted from a discussion as to the merits of these smaller fishing schooners from different Scotian ports and an expressed desire upon the part of many interested to see them come into competition. No committee has been yet appointed to draft rules, but it is the intention of the donors to limit the size of vessels competing to thirty tons. This ruling is obviously fair as vessels of larger tonnage would be too severe a handicap for fishermen much smaller. In drawing up a code of rules it is our opinion that every inducement should beprovided to encourage the construction of a better class of vessels. While much interest is developed and tremendous publicity gained from the sporting aspect of this and the deep sea fisherman race, a more permanent good may be done by so regulating the event that it will carry in its wake development and modernization in fishing craft.

It is obvious that this race will not create the widespread interest occasioned by the big event, but it is pregnant with many progressive possibilities. We look to the promotors to link up with the sporting element of the race strong inducement to build improved craft. This latter feature is even more important than in the capital event. Nearly three-quarters of our Atlantic sea fish is produced within twelve miles of shore. The inshore vessels and the trawlers supply our fresh fish trade. The whole continent of America offers a market for fresh sea fish and improved methods of fishing and handling the catch mean a finer product on the market and a satisfied consumer, which, in a nutshell, is the secret of increased fish consumption.

BRITISH OFFICIALDOM.

We have a good deal of interest in the announcement elsewhere that Fishmongers' Hall, London, has decided to forego the elaborate and destructive system of putting metal tags on our frozen salmon, and be content with a signed certificate enclosed with each fish. We must admit, though, that we are rather at a loss to appreciate the reasoning of Fishmongers' Hall in extending this liberty to British Columbia Salmon and not to Atlantic salmon. It is declared that our Atlantic salmon is the identical species caught in waters of the United Kingdom, while Pacific species are admittedly distinctly different. Such being the case why is it necessary to mark Pacific salmon at all? They are readily identified as strangers to the United Kingdom, and why would not the suggested certificate suffice for the Atlantic species?

It was breakfast time, and Private Jones was eloquent of disgust. The menu consisted of sausage.

Presently along came the orderly officer, asking if there were any complaints.

"Yes, sir," said Private Jones. "One end of my sausage is meat and the other is wood."

"Well," replied the orderly officer, "these are hard times, and I suppose the makers couldn't make both ends 'meat.' "

"I'm not complaining of the amount of meat, sir!" retorted Jones. "It's the amount of kennel I don,t like."

A New Man At The Wheel



FREDERICK WILLIAM WALLACE.



JAMES H. CONLON.

The foot of the ladder of journalism and literature is well placed in Canada for those who take to the business of writing and authorship. The clear invigorating atmosphere, the rugged life and the wide expanse of country, coupled with the sturdy type of settlers that have made this north country their home, make for conditions that foster ideas and develop the desire to give expression to them. Proportionate to the population Canada has entered more than her share of writers and authors.

But as the scribes begin to mount the above-mentioned ladder it leads them across the boundary into the larger centres of New York and London. The last to go over this road was Frederick William Wallace who left Gardenvale a few days ago for New York City, and who is the author of "Blue Water", "The Shacklocker" and "Viking Blood", three of the most popular volumes of recent literature. At the same time the Canadian Fisherman lost a most competent editor. As a pot boiler Mr. Wallace has edited the Canadian Fisherman for the last eight years and acted as Secretary of the Canadian Fisheries Association. But while this work was a bread winner Mr. Wallace gave it attention and achieved results in it which would do credit to one whose whole purpose in life was to do this and nothing else. Under his editorship the Canadian Fisherman, in a comparatively short time, has taken its place among the leading and best edited educational and industrial magazines published anywhere and the Canadian Fisheries Association has become a power among eduational organizations and has accomplished a work for the commercial fisheries equal to the most sucessful of such organizations.

We are sure that Mr. Wallace will rise to eminence in the field of letters, but we doubt if he will erect a finer monument to himself than he has already established in the hearts of the fishermen of the sea coasts and shores of the inland lakes and rivers of Canada.

There can be no better gauge of a man than the calibre of those he gathers about him and inspires with his own ideals. A big man never leaves a position without filling it with potential brain power capable even of greater things than he himself achieved and in Mr. James H. Conlon who assumes the editorship of the Canadian Fisherman and the secretaryship of the Canadian Fisheries Association, the commercial fisheries of Canada has an efficient and courageous sponsor.

Mr. Conlon, although still in his twenties has had many years of newspaper experience and more recently organized and directed the fish marketing division of the Fisheries Department at Ottawa. Through this work he has become well and favorably known to the industry. Under Mr. Conlon's editorship we are sure that the Canadian Fisherman will hold the same interest for its readers that it has in the past and the same progressive policies that have characterized this publication and the Canadian Fisheries Association will be continued with even greater force.

THE PUBLISHERS.

All Together Boys! Boost The Day!

"Few of our industries possess greater potentiality or finer possibilities than our vast fisheries. We have the resources to place us at the head of fish producing nations, and each and every one can play a part in achieving this goal.

"Production just keeps pace with demand, and until consumption of our seafoods is increased at home and abroad we must be content to utilize but a small fraction of the wealth our fisheries will yield.

"Each may contribute materially on National Fish Day,—February 1st,—by maintaining the spirit of the time and by studying the tremendous possibilities of a consistent use of fish."

The foregoing is the message which the new minister of fisheries, Hon. Ernest Lapointe, has issued to the people of Canada. It is a logical appeal and one which presents the situation concisely and strongly.

J. A. Paulhus, first vice-president of the Canadian Fisheries Association, has issued a statement to the trade, calling upon all commercially interested in the industry to put his whole heart and soul into the National Fish Day movement and make the event this year a greater success than ever before. His message follows:

"As the originator of National Fish Day and as vice-president of the Canadian Fisheries Association, I beg to ask every member of our organization and the trade in general to give all the support possible and to devote as much time and energy as they reasonably can in order to make this coming National Fish Day the best ever. There are many good reasons why we should go into the affair wholeheartedly, but above all we must convince the public that our aim is a patriotic one and devoid of selfish motives.

"No industry in Canada has had to depend upon its own initiative and resources to such an extent as the fisheries. None has been less favored by the powers that be. It has been left to struggle with its problems with very little encouragement or sympathy. Still no industry possesses such vast possibilities nor deserves more appreciation and support. It is a basic food source, supplying the raw material for a multitude of subsidiary industries. As a food purveyor the industry has no peer. It surpasses in volume, quality and variety our meat, cereal and fruit products.

"*Fish should be the breakfast of the Canadian people.* It is more palatable and more nourishing than cereals and is a substantial diet for manual or mental workers.

"For the past few years as an association we have tried hard to get a hearing from the Council of our Nation. We have repeatedly knocked at the door of the Department of Marine and Fisheries asking admittance and that our industry be given official recognition in the shape of a separate department, but always and invariably our insistence has been ignored, our voice muffled by indifference, our solicitations evaded by subterfuge or diplomatic legerdemain.

"Cannot they realize the possibilities and importance of the fisheries of Canada?

"The present government, we trust, will put an end to this era of ruinous extravagance, building ships and railroads which are a drain upon the people, and bend its effort towards stimulating the development of our natural resources, particularly the fisheries.

"Gentlemen of the Canadian Fisheries Association and of the fish trade in general: Let us rally now to make the coming event an outstanding success, not from a selfish point of view but with the feeling that we are doing our duty towards ourselves and our country."

Preparations for the Day.

In the city of Montreal the trade has organized to boost the movement. Special street car advertising is being done, the theatres are showing special fishery films, wholesale and retail merchants are stamping their correspondence with National Fish Day propaganda and parcels are leaving the retail stores bearing conspicuous labels.

A feature of the Montreal celebration is to be a banquet in the Windsor Hotel in the evening, at which it is hoped to have Hon. Ernest Lapointe as the guest of honor.

From the standpoint of the Canadian Fisheries Association the day will be a red-letter one, as it will mark the inception of a scientific and educational division, instituted for the purpose of preparing pamphlets and other literature dealing with the fishing industry for use in public schools and libraries, in which institutions such literature is badly needed. Among those expected in Montreal to launch this movement are — Dr. R. E. Coker, Bureau of Fisheries, Washington; Russell Palmer, New York; F. W. Wallace, New York; Dr. A. G. Huntzman, Canadian Biological Board; W. A. Found and J. J. Cowie, Ottawa; Professor John N. Cobb and Miller Freeman of Seattle and Dr. McLean Fraser of British Columbia.

The Pacific Coast.

The Vancouver Branch of the Canadian Fisheries Association held a luncheon meeting on January 9th to arrange for the celebration of Canada's National Fish Day, on Feb. 1st, throughout British Columbia. Mr. Frank E. Payson, Secy. of the Vancouver branch, was appointed Chairman of the Fish Day Committee.

After reading the report of Chairman R. R. Payne of the 1921 Fish Day Committee it was decided to carry on along the same lines with the idea of making 1922 even larger than the previous year's most sucessful celebration when about 2000,000 lbs. of fresh and cured fish and approximately 100,000 lbs. of fish were disposed of. These figures show an increase of about fifteen times more than a normal consumption in a like period which thoroughly demonstrates that the Nation Fish Day celebration is well worth while.

Every one at the meeting was enthusiastic in regard the celebration of Fish Day and expressed their hearty co-operation with the celebration not only in spoken words but in a material way, so it may be said that Vancouver is away to a good start.

Every town and city in British Columbia will be circularized and in Nanaimo, Victoria, and New Westminster members of the Canadian Fisheries Association will do everything possible to have fish eaten on Febuary 1st.

Our New Minister

Let us introduce to you Hon. Ernest Lapointe who enters the Mackenzie King administration as minister of marine and fisheries. He assumes the administration of the fisheries with the very best wishes of the commercial interests. To him we extend on behalf of the trade a most cordial welcome.

Hon Mr Lapointe took over the direction of fishery affairs several weeks ago, but until he has thoroughly acquainted himself with the routine of affairs and until he has passed the troubles and worries attendent upon a bye-election, no great activity may reasonably be expected of him. But when he has passed this stage Hon Mr Lapointe will have many important fishery matters pressing him for attention, His career and reputed ability, however, justify confidence that he will meet every situation in a manner thoroughly satisfactory to the trade.



HON. E. LAPOINTE.

Our new minister was born at St Eloi, Temiscouata county, Quebec on October 6, 1876, son of S. and Adele (Lavoie) Lapointe. He was educated at Rimouski College and Laval University, receiving from the latter the degrees of B.A. B.C.L. and L.L.B.. In 1898 he was called to the Quebec bar and ten years later was created K.C. For a short period after being admitted to the bar he practised his profession in the city of Quebec, later going to Fraserville where he formed a partnership with Adolphe Stein. During the following years he served as town attorney of Fraserville and crown prosecutor of the District of Kamouraska. In 1919 he moved to Quebec where he is still a member of the firm of Lapointe, LaForte, Savard and Savard.

In 1904 he was elected to the House of Commons, to represent Kamouraska and he was returned from that riding each general election until 1919 when he was chosen to contest East Quebec, the seat formerly held by Sir Wilfrid Laurier. His career in the House of Commons has been a brilliant one. He has shown himself keen in debate and was looked upon by Sir Wilfrid Laurier as one as his ablest lieutenants. Under the leadership of Hon Mackenzie King he was foremost in the Liberal ranks and has been generally recognized as the leader of the Quebec wing of the Liberal party.

Along with ability that is undeniable and a genial personality, Hon Mr Lapointe possesses the wonderful and by no means common faculty among successful politicians, of being approachable. Already he has ben advised by a representative of the Canadian Fisheries Association that the immediate ambition of the commercial interests is to secure a separate department of fisheries-distinct from all affiliations, and to be guided by a man with the rank of deputy minister, who may have direct access to the minister at all times. It was impressed upon him that it was considered necessary that the man at the head of the fisheries department should be a man with no other worries upon his shoulders and one who is well versed in the multitudinous problems of the industry and its complexities. The minister had a most sympathetic ear and gave assurance that the matter would be given immediate attention. Undoubtedly the government must be economical to make ends meet, but that is no reason for neglecting that long-standing want. It will require not more than $5,000 or $6,000 a year to create the new department. The entire machinery is there. The reorganization is merely a matter of shifting control.

This is the first and foremost want of the industry and it is considered absolutely essential in order that problems looming upon the horizon may be well handled.

The case rests in the hands of Hon Mr Lapointe as such a matter of reorganization would undoubtedly be left to his discretion. The industry trusts to his good judgement.

A REAL NEED.

A small boy in the visitors' gallery was watching the proceedings of the House of Commons.

"Father, who is that gentlemen?" he asked, pointing to the chaplain.

"That, my son, is the chaplain," replied the father.

"Does he pray for the members?" asked the boy.

The father thought a moment and then said: "No, my son, when he goes in he looks around and sees the members sitting there, and then he prays for the country."

Erie Fisherman Affiliate With C. F. A.

Seventh Annual Convention at St. Thomas Marked by Progressive Move. — Many Important Resolutions adopted. — Brown Again President.

As a result of the seventh annual convention of the Lake Erie Fisherman's Association, which was held at St. Thomas on January 9, 10 and 11, that organization becomes affiliated with the Canadian Fisheries Association — the national body. The decision of the convention is significant of the times, and the strong support now coming from the lakes district is a substantial acquisition to the parent body. The Lake Erie Asociation is to be congratulated upon its progressiveness, and in this regard much is due to the wide-awakeness of A. S. Brown, president and H. A. Short, secretary-treasurer.

While the atendance was not as large as in previous years, the gathering was most representative. There was a fine spirit of unanimity among the various interests and business was executed with deapatch. Mr. Brown, to whom the association owes much for the success of this year's meeting and previous prosperity was induced to accept another term as president. He has already served three terms, and while he felt he should make way for someone else, it was impressed upon him that he was the man for the job. In the re-election of Mr. Short as secretary- treasurer the association experienced more good fortune. With the enthusiasm and energy of these two gentlemen, along with C. F. A.. affiliations increased prosperity may be expected in the next year.

The other officers elected were: Honorary president, Hon. H. Mills of Toronto; vice-president, H. Dromgole of Wallacetown, and secretary-treasurer, H. A. Short, of Port Stanley.

The following were apointed members of the executive committee: A. E. Crewe, J. E. Pastorius, W. D. Bates, H. Goodison, E. Koehler, W. F. Kolbe, B. G. Westcott, H. Hales, A. B. Hoover, J. W. Grubb, W. F. Conway, George Van Order, W. H. McPherson, H. Taylor, George Oldrieve, M. McAuley, E. W. Moss, W. H. Wheeler, A. Dougker, George Gorrel, S. S. Baswell, A. Misner, Charles Ross, A. G. Anderson and N. McLean.

Executive meetings were held on the afternoon and evening of Monday, and on Tuesday morning. On Tuesday afternoon and Wednesday afternoon open meetings were held in the town hall. On Tuesday evening the annual banquet was held in the dining room of the Grand Central Hotel.

First Business Session.

Considerable business was transacted at the first open meeting on Tuesday. It was unanimously dicided that the association should become affiliated with the Canadian Fisheries Association. To cover the cost of affiliation it was also decided to increase the annual fee to $7.

The meeting voted to send letters to every fishing license holder on the north shore of Lake Erie, explaining the aims and objects of the Lake Erie Fisheries Association. The letters will be followed by a personal canvass undertaken in the various districts by the following men: Pelee Island, W. P. Conway; Wheatley, A. E. Crewe; Cedar Springs, H. Goodison; Ridgetown, W. D. Bates; Clearville, E. Keohler; Port Stanley, H. A. Short; Port Burwell, George Van Orden and A. Misener; Port Dover, C. E. Barwell and Cap. F. Kolbe; Dunnville, C. Ross; Maitland, A. E. Hoover, and Nanticoke, W. H. Wheeler.

The grievance committee will be as follows: Essex, B. G. Westcott and W. P. Conway; Kent, A. E. Crewe and N. McAuley; Elgin, E. Koehler and W. H. McPherson; Norfolk, G. Van Order and C. E. Barwell Haldimand, A. E. Hoover and E. W. Moss.

Members of the advisory committee for the past year were re-elected. They are: H. Dromgole, A. E. Hoover, W. H. McPherson, J. E. Pastorius and George Van Order.

In his opening address the president stated that he did not think that any man should hold office for more than three years, and for that reason he intended to resign at the end of 1922. He regreted that there was such a small attendance.

There was, Mr. Brown continued, a certain portion of the membership who had decided to withdraw. He regretted the action, but stated that it was their privilege. He believed that the association could have accomplished much more if the membership had stayed together.

The president did not believe that the fishermen of Lake Erie were getting a fair deal from the provincial government. The minister of fisheries, who was invited to come, not only refused the invitation, but neglected to send a representative. It was the second year, Mr. Brown said, that the invitation was refused.

He attacked the government because it forced the fishermen to pay a sum in excess of 50,000 for the privilege of fishing in Lake Erie and then refused to give the customary grant of $500 which had been received annually from preceding governments. The fruit-growers of Niagara, he said, received aid, and they paid no money to the government.

The freedom of the city was given to the delegates by Mayor C. E. Raven in an address of welcome. The delegates were also welcomed by Frank Harding, president of the chamber of commerce. Mr. Harding invited the delegates to come to the chamber for help at any time they needed information, or assistance.

Tells Yukon Experience.

Two excellent addresses were given by J. J. Harpell of the Industrial and Educational Press who extended greetings from the Canadian Fisheries Association, who spoke on "Co-operation," and by Rev. J. Bythel on his experiences in the Yukon.

Mr. Harpell outlined the activities planned by the Canadian Fisheries Association for advancing the cause of the fishermen throughout the country.

Realizing in common with other industries the need for educational propaganda, the association, Mr. Harpell stated, was preparing literature concering the fish-

eries and books for the public schools and libraries.

At the present time no textbooks on the subject could be found in the schools or libraries, even in the towns where the population for the most part is engaged in fishing. To remedy the matter, one of the greatest experts on fisheries on the American continent has been secured to prepare and edit the needed literature.

By means of calendars and similar methods, Mr. Harpell continued, the housewives throughout the country may be educated into the use of fish and to what fish are in season month after month. The calendar may also contain recipes for the preparation and serving of fish.

He dealt briefly with the Fordney bill, claiming that the association was preparing to work hand in hand with the government in fighting the bill. He did not think that the time was ripe at present for definite action.

Rev. Mr. Bythel gave an exceedingly interesting talk on the Yukon, telling of the great hardships of those who took part in the early gold rushes, describing the wonderful scenery, and the many deserted cities, life among the placer miners, for the most part, whom he



H. A. SHORT, re-elected secretary.

claimed, were men of strong characters, and then telling of the intense and maddening silence of the country beyond the mountains.

The financial report of the association showed a deficit of $230.

Second Business Session

"That whereas the fishermen of Lake Erie are paying very high licenses to the Ontario Government for the privilege of fishing in the said Lake Erie, and whereas the Government, in 1917, engaged in the fish business as producer and dealer as a war measure, and are now continuing in this business in direct competition with legitimate producers and dealers, although the war ended in 1918, and have practicaly destroyed the local Ontario market for these producers and are at times overloading the American markets with surplus produce.

"And whereas the operating costs of fishing are much higher on the north shore than on the south of the lake, owing to the high price for coal, gasoline, licenses, etc., and that the fishermen of the south shore are $1 per hundred pounds nearer the American market;

"Be it resolved, that the Lake Erie Fishermen's Association here assembled request that the department discontinue the fish business forthwith, and also that licenses for 1922 do away with all royalties."

Unanimously Adopted.

The foregoing resolution moved by Messrs. Barwell, of Port Dover, and Ed. Koehler, of Clearville, was unanimously adopted at the executive meeting of the Lake Erie Fishermen's Association this afternoon, and later in the open meeting was indorsed by an unanimous vote of the entire gathering. There was little discussion at the open convention over the matter, but it was among the most important of the entire convention.

Speaking briefly after it had been adopted, J. Kirby, a representative of the F. T. James Company, of Toronto, wholesale fish dealers, declared that it was a move in the right direction. He saw no objection to the Government going into the fish business during the war, because at that time some means of economizing and conserving food were absolutely essential. Today, however, the need had passed.

"Someone has asked why they never hear of the F. T. James Company in this part of the country any more," declared the speaker. "This reason is that we have been unable to handle fish from Lake Erie's waters with the Government in the business. I am not stating that the carrying on of the fish business by the Government was designed to ruin us, but it could not have been done in a better way. The Ontario Government has pretty nearly put us out of existence as far as Lake Erie fish are concerned."

J. A. McLeod, of the department of mines and fisheries, Toronto, who arrived just that day following objections raised the previous day by the president, regarding apparent unconcern of the Hon. Harry Mills over his fishermen friends, declared that it was with regret that he had to offer apologies for the absence of Mr. Mills. He declared, however, that the minister was heartily in accord with the association and its aims and objects, and would have been in attendance himself but for the fact that he did not know the date of the meeting, except in a roundabout way.

Referring to the question of the Government abandoning the fish selling department, he could give little information. He would not state whether the Government would give this up, but he thought some amicable arrangement might be made between the department and the fishermen. Hon. Mr. Mills and other members of his department, said the speaker, were at all times anxious to look after the interests of the fishermen. Both he and the minister had intended being in the city for the opening of the convention, and as soon as he (Mr. McLeod) had learned that the meeting was in progress he communicated with Mr. Mills and was ordered to go immediately to St.Thomas. He arrived here this afternoon. He advised the association to take their resolutions to the department and back them up with reliable information. In this way, he said, better arrangements could be made between the Government and the fishing industry.

Want Grant Reserved.

The convention also adopted a resolution asking the Ontario Government to renew the annual grant of $500 to the Lake Erie Fishermen's Association and a committee, consisting of President A. S. Brown; Vice-President Harry Drumgole, of Walacetown; Secretary H. A. Short and Mr. Barwell, of Port Dover, was named to go to Toronto and present resolutions and petitions to the Government. This committee will represent the association on any official visit to the Parliament buildings, either at Toronto or Ottawa.

Some good, sound advice on proper means of co-operating and assisting each other in obtaining assistance from the governments of the Dominion and the province was given to the fishermen at the close of their convention here this evening by Henry Heinrichs, jr., of Chicago. Mr. Heinrichs has been a visitor at the Lake Erie Fishermen's Asociation each year since the association was formed seven years ago, and his advice has always been of value in instilling a little enthusiasm into the organization.

In his address, which was very brief and to the point, he urged the fishermen to unite at all times. If they put up a strong front when asking Toronto or Ottawa for assistance, their legislators, he said, would be bound to accede to their demands, and he said the fishing industry certainly needed some improvement in the way of legislation.

He cited an instance in the State of Ohio, where a group of farmers, who had organized for political purposes developed the belief that the waters of Ohio, being state waters, should not be used by the fishermen for fish production. They attempted to create the belief that the fish caught were entirely the property of the citizens of the state.

With this end in view a bill was prepared and submitted to the Legislature, in which it was proposed to impose a tax of one cent a pound on all fish caught by legitimate producers in the Ohio waters. This tax would be placed in the state treasury and used as a fund to purchase fish at cost from the fishermen for the purpose of reselling at cost and in competition with those producers. The bill, said the speaker, would undoubtedly have passed and become law but for the fact that the fishermen, through their association, got busy and after strenuous efforts were able to have it defeated. It would have meant the ruination of the fishing industry.

"In unity there is strength," declared the speaker. He said that in no industry was it more noticeable than in the fishing business. A man who was in the fishing business for commercial purposes must have the assistance of his associates and co-workers.

Important Resolutions.

Some important resolutions were adopted before the close of the convention this afternoon, among them being the following:

"That, owing to the poor fishing season of 1921, and the fact that the gill net fishermen have been unable to use up deep nets, they be allowed to use during the year 1922, their deep nets now on hand, but with the understanding that no new stock of deep nets is to be purchased by them during the year."

Another, submitted by the executive and adopted by the meeting, is as follows: "That, inasmuch as there are several important questions pertaining to the fisheries, especially as to the size of fish, to be taken up with or by the department at Toronto, and as this association feels convinced that these can be handled more satisfactorily for the department and the fishermen of the province by having representatives of the federal fisheries department, who have practical knowledge of the need, the advisory committee of this association requests that the Ontario fisheries department appoint one or two representatives and the federal department to do the same to meet our advisory committee at St. Thomas at the earliest possible date and in ample time before the opening of the fishing season."

Another resolution reads: "That the Ontario Government be requested to remove the five-mile limit in the territory along the south side of Long Point from the imaginary line, 80 degrees, where it touches the mainland, east to the end of Long Point."

A similar resolution was passed in 1916 and the fishermen were allowed to fish inside the limit. The licenses issued, however, gave no permission to do so.

Before the opening of Wednesday's session the official photographer took a group picture of the delegates outside the city hall.

The Annual Banquet

The delegates and guests were royally entertained at the annual dinner on Tuesday evening when nearly a hundred sat down. The speakers of the evening included A. E. Pontsford, Hugh McKillop, M.P. for West Elgin, McVicar, M.P.P., for East Elgin, Peter Cameron, M.P.P. for West Elgin, County Clerk McKay, representatives from the town council and the Chamber of Commerce, His Honor Judge Coulter, Rev. Wilfrid Gaetz, Jas. H. Conlon, secretary of the Canadian Fisheries Association, A. Hendricks, Jr., a guest from across the border, J.G. Gillies of the Bay State Fishing Co. of Boston, and several others.

Rev. Mr. Gaetz spoke most interestingly of fishing on the Grand Banks of the North Atlantic and related some of his own boyhood experiences. Messrs. Hendricks, and Gillies spoke of the necessity for co-operation among various branches of the fishing industry if they were to have a say in the direction of affairs. Mr. Conlon expressed his gratification that affiliation had been consummated and he congratulated the Erie organization that it had seen beyond the horizon of local issues to the national ideals. He pointed out that members must not think that affiliation lifted any responsibilities from their shoulders. The parent body got its life, its vitality from the energy and enthusiasm of individual members and its success in achieving its ambitions would be measured by the assistance from each individual member.

The programme was interspersed with vocal numbers furnished by the Kiwanis quartetet, Guy Brown of Kingsville and others. Members of the Kiwanis Club led in choruses.

Some of Those Present.

Among those members who attended the meetings of the convention were: J W. Grubb, Leamington; C.W. Barwell, Port Dover; Chas. Ross, Port Mainland; A.S. Brown, Kingsville; W.R. Woollatt, Kingsville; Rod. Smith, Kingsville; L.H. Kennedy, Merlin; B.G. Westcott, Kingsville; W.D. Bates, Redgetown; W.H.

Wheeler, Selkirk; A. McCallum, Redgetown; J.E. Pastarius, Kingsville; G.W. Miller, Lowbanks; A.B. Hoover, Nanticook; H. Dromgole, Wallacetown; W. J.. Kolbe, Port Dover; D.L. Crewe, Merlin; A.E. Crewe, Merlin; Geo. Van Order, Pt. Burwell; Geo. Gray, Rodney; W. Wilson Co., Toronto; Lusky Fulbruth, Dutton; F.K. Rose, Morpeth; Ed. Koehler, Wallacetown; Kockler Bros., Wallacetown; Elgin Fish Co., St. Thomas; Eagle Fishery, West Lara; Shippey & Dandey, West Lara; W.P. Conway, Pellee Island; A.I. Misner, Port Burnwell; J. Driver, Muirkirk; H.A. Short, Port Stanley; S. Barbour, Toronto; J.W. McEven, Toronto; William Bates, Ridgetown.

From a Visitor's Newsprint.

Say, boys! You've got to hand it to Art Brown for making a success of the convention. Didn't he keep things moving all the time?

We are authorized to make the announcement that Ed. Koehler enjoyed himself. For our own part we can vouche that he helped materially to make the convention enjoyable for others as well.

George Van Order says that he weighed 275 pounds when he was eighteen years of age. His youthful avoirdupoids no doubt accounts for the fact that he now touches the scales at 492 pounds.

By the way, George did strike a bit of luck. He happened to sit at the banquet alongside a chap who very foolishly ate his supper at the usual hour. The fact that the other fellow wasn't hungry was George's salvation.

But, getting back to business again. Don't you honestly think Bill Bates deserves credit?

A.B. Hoover takes a big interest in the association and is just the kind any live organization appreciates.

Speaking personally the writer cannot understand why the very pleasant gathering in 35 on Wednesday evening, shifted spontaneously to 32 and then suddenly into many rooms.

There was no occasion for a visitor from Quebec getting lonesome.

Al Pontsford, the prime mover is organizing the association, and an active spirit ever since, does not have to be thanked for his interest. If he knew the feeling of the boys toward him, we feel sure he would be fully compensated.

BLUENOSE HAS ROUGH TRIP.

The champion schooner Bluenose, with Captain Angus Walters at the wheel, made Lunenburg, N.S., Dec. 12, after a tempestuous passage from Turks Island. The vessel was twelve days making the run to this port and encountered heavy weather practically all the way.

Leaving Turks Island on November 30th with 5,500 bushels of salt Captain Walters expected to make a fast run, but his hopes were shattered when the Bluenose encountered gales. Five days ago she was 500 miles off Halifax and was blown off the coast. For ten days he could make no observation by the sun and for a considerable time the vessel was under storm staysail. One night it was necessary to have to. However, the staunch champion of the North Atlantic fishing fleet proved her seaworthiness, acted well in rough weather and demonstrated that she was excellent sea boat . The Bluenose had taken a cargo of 600 casks of dried fish from Halifax to Ponce, Porto Rico, and after discharging there proceeded to Turks nose encountered gales. Five days ago she was 500 mi-Island to load salt.

ANOTHER MILESTONE

Nine years ago the CANADIAN FISHERMAN opened its eyes and gazed optimistically about the world. In its babyhood it was inspired by the belief that our vast fishing industry was drifting an aimless course, that our tremendous resources were unorganized and the wealth that is rightly ours geographically and strategically was being neglected. Since 1913 we have witnessed many progressive strides and it is our pride that we have been able to wield an influence in promoting the industry's advancement. In the short period the industry has grown from swaddling clothes to mature manhood, and in the course of the next nine years we may expect accelarated development compatible with our broader vision and deeper understanding. The commercial branch has been welded into a single unit and the policies which are being advanced by the CANADIAN FISHERMAN as the official organ of the CANADIAN FISHERIES ASSOCIATION epitonize the feeling of the trade as a whole and it will ever be our aim to justly and correctly interpret the voice of the industry.

SPECIAL LOBSTER SEASON A FAILURE.

The special six weeks fishing season for lobsters, beginning November 1, granted by the Dominion Fisheries Department to fishermen on the southwestern shore of Nova Scotia, is reported to have been a failure from the standpoint of the majority of the fishermen engaged, though in Halifax county, where the fishermen who did not have their earnings offset by the loss of traps in the heavy storms after the end of November, cleared about $100 per boat for the month, it was a benefit, as many of the boat fishermen engaged in fresh fishing during the summer had been obliged to suspend operations owing to lack of markets, and faced the winter with scant resources.

A large percentage of the lobsters taken on the southwestern shore were not in proper condition for canning, much less for the fresh markets; their season's shells having hardly had time to harden and the flesh being poor. The catch which at normal prices would have been worth $500,000 only brought about $250,000.

One result of this special season was to glut the American market, causing considerable loss to the fishermen of Maine and St. John and Charlotte counties, N.B., who ordinarily have the early winter market to themselves.

Owing to the immature condition of the lobsters few of the factories on the southwestern shore attempted to can them, the pack being less than one-half what it was expected to be, a fact which will be gratifying to canners throughout the Maritimes who fear the production of an extra pack which would tend to reduce prices.

It is said that the fishermen of the Southwest shore will in future years be content to wait for the regular open season for lobsters, beginning March 1, when the lobsters they catch will be of greater value.

Need New Canada-U.S. Fishery Treaty

Since Convention of 1918 Has been Definitely discarded, New Agreement is Necessary to Avoid Reversion to Objectionable Features of 1818 Treaty.

Now that the draft treaty of 1918 between Canada and the United States, which promised to bring to a most satisfactory end all outstanding controversial fishery questions, has been definitely discarded, there are rumors that an effort is being made between Washington and Ottawa to re-open the question. To revert to the treaty of 1818—and there is no alternative if matters are left as they stand — would provoke irritation, and is something which our fishing interests do not want. Nor does the present situation appear to appeal overmuch to fishermen cousins on the other side of the border.

A Canadian Press report emanating from Halifax recently stated that Sir Robert Borden, Canada's representative on the Imperial delegation to the disarmament conference, has, while in the American capital, been discussing with officials of the United States Government, the question of a new fisheries treaty between Canada, and the Republic. In view, however, of the Canadian political situation it is believed that the discussions have been of an informal nature, only intended to pave the way for early consideration of the fisheries question at issue between the two countries. At the same time it is felt, that Sir Robert might with some propriety bring the fisheries question to the attention of the American authorities, because if Canada has to fall back on the old treaty of 1818, she will be obliged as in former years to employ armed vessels to patrol her coasts.

In 1918 the joint fisheries conference composed of Sir Douglas Hazen, Chief Justice for New Brunswick; G. J. Desbarats, Deputy Minister of Naval Affairs; and Wm. Found, Supt. of Fisheries, representing Canada, and Hon. Wm. C. Redfield, Secretary of Commerce; Hon. Edwin F. Steel, and Hugh M. Smith, Supt. of Fisheries, representing the United States, agreed on certain recommendations concerning all phases of the fisheries question, and most of these were temporarily implemented by proclamation of President Wilson, and by Order-in-Council of the Canadian Government. But the American Government some months ago abrogated its part of the agreement, relative to reciprocity in port privileges, and both Governments have discarded that part of the draft convention of 1918 providing for international regulations to protect the sockeye salmon fishery on the Pacific coast.

Basis of Settlement.

In their final report, the joint commissioners of 1918 recommended that the Treaty of 1818 be so amended as to provide for the settlement of the major fisheries question on the following basis:

1. That the fishing vessels of either country may enter, from the high seas, any port of the other, and clear from such port to the high seas and the fishing grounds.

2. That the fishing vessels of either country may dispose of their catches and purchase bait, ice, nets, lines, coal, oil, provisions, and all other supplies and outfits, in the ports of either country.

3. That the repairing of fishing implements in the ports of either country be allowed to the vessels of the other country.

4. That the fishing vessels of either country, may dress, salt and otherwise prepare their catches on board such vessels in the territorial waters of the other country.

5. That the fishing vessels of either country may ship their crews and tranship their catches in the ports of the other country.

6. That the fishermen of either country may sell their catches in the ports of the other country, subject to local tariff if any.

The commissioners also unanimously recommend free trade in fish.

At present Canada accords to American fishing vessels practically all the privileges enumerated above, except that when selling their fish to Canadians they must pay the customs duty, if any, or secure an undertaking that the buyer will tranship the fish in bond to the United States. The costs of these privileges to American vessels is $1 annually.

On the other hand Canadian fishing vessels may only enter American ports for the humanities.

What Fish Men Think.

The terms of the treaty of 1918 were considered highly satisfactory by those engaged in the industry and it is regretted that the present situation has come to pass. It is stated by some authorities in the industry that the commission which drafted the treaty was the best that ever sat on a Canadian fishery dispute. The opinions of two outstanding Halifax men in the trade, which are herewith reproduced from the daily press, are significant.

"If the Government of Canada and the United States will settle the fisheries question on the basis of the arrangement made in 1918, in order to facilitate food production during the war. I think the fresh fish trade of the Maritime Provinces will be satisfied," said Arthur Boutiller, yesterday, vice-president of the Canadian Fish Association and head of one of the largest fresh fish firms in Eastern Canada. "We want an amicable settlement and do not want to drift back to the old conditions when armed Canadian vessels patrolled the seabord, and an American warship cruised in the offing, Mr. Boutillier added. The United States now only allows Canadian fishing such privileges in American ports as they are entitled to under the treaty of 1818, which rather expressed the spirit of the relations, existing between the British and Americans in the earlier years of George III. So, if on top of this, the United States adopts the proposed fish schedules of the Fordney tariff bill, which would go far to shut the cheaper varieties of Canadian fresh fish out of the American market, though it would not much affect our high grade fish trade, as the Americans would have to come to us for supplies and pay the duty themselves—they will have no cause of complaint, if American fishing vessels are

adian ports as Canadian vessels are in American ports. Of the American fishing vessels which make 700 entries restricted to the same conditions of entry into Canin Canadian Atlantic ports and 1,700 entries into Canidian Pacific ports annualy, the great majority enter under conditions which, if the provisions of the treaty of 1818 were applied would render them liable to seizured and confiscation. However, we hope the two governments will get together and removed the present uncertainty," Mr. Boutillier, conclude.

Salt Fish Market.

"Settlement of the fishery question on the basis of the war time understanding of 1918, would be the happy and natural solution," said A. H. Whitman, of Robin, Jones & Whitman, Limited, large salt fish dealers, operating twenty-five establishments in Nova Scotia, New Brunswick, Quebec and the State of Maine.

"The interests of the salt fish trade and the fresh fish trade do not always run parallel and the Fordney Tariff Bill does not worry us, as it may do the fresh fish trade. Doing business in both countries, we are satisfied that if the proposed tariff schedules applying to salt cured fish itime and Quebec production of salt fish offered in the are adopted, the American will pay the duty. Our Mar-American market is a mild cure, such as we put up for the Italian market, and is mainly consumed by the Italian population of the States. America does not produce a similar cure of any consequence, and must import or their foreign population will go without.

"Moreover our prices on salt fish are not determined by the American market, but by the markets of Italy, Spain, Portugal, Brazil, the West Indies and other countries.

"A few years ago Gloucester, Mass., asked for free-trade in salt fish, because its salt fish business had dwindled to small proportions. When the Gloucester obtained free access to our fish it attempted a revival of the salt business on such an extravagant scale that it over-reached itself. And now that the Gloucester salt fish business is in a bad way, some firms want to go back to the conditions under which the trade was already dying. Before the Fordney Tariff goes through I have no doubt Gloucester will wake up to the fact that it would be a greater danger to its own interests than any body else.

"As for the question of port privileges the fact that Canadian vessels cannot now use American ports for any fishing purpose is no particular reason why we should apply the same policy to American vessels. They do not do any harm by coming to our ports to buy bait and other supplies."

SQUID TO EAT.

In Spite of Its Repulsive Appearance It Is a Delicacy If Properly Cooked.

There are lots of folks who never eat tripe, and others who get ill even at the mention of raw oysters. Snail-eating Frenchmen were objects of much amusement until an appreciative world sampled their delicacy and much the same tale is connected with the popularity of frogs, legs, now an epicurean delight in the United States. In this year of plenty many inhabitants of Russia and eastern Europe are subsisting on a diet of ground twigs and clay. Cruel necessity forced people during the world war to eat food substitutes that few normal humans had ever previously tasted. All this as an introduction to the squid.

Now a squid is a molluks, strange as it may seem, a miniature devilfish except that the squid has ten tentacles, where the octopus branch of the family is endowed with but eight. Likely there are those who read this who would squirm with horror at the thought of eating a devilfish, but squids meet with a ready sale on the public market. It's hard to believe that the soft, snaky squid is a shellfish, for the shell that should form a protection armor is inside. In the squid found on the Mediterranean the boney structure is the cuttlebone of commerce, so appreciated by canaries and other birds.

Squids are greatly esteemed as a delicacy in Portland, and those who have conquered a certain aversion to their exterior appearance, when raw appreciate their charms when fried. Twenty cents a pound is the usual price and several tons are disposed of each week. Most women shoppers shudder when they see the snaky carcasses and pass them by.

In the water the squid has chameleon-like powers of changing its colors to suit its backgrounds for protection and in addition carries an ink sack for added camouflage, through which it discharges colored water when threatened, and under protection of the cloud darts to cover. These added defensive properties are likely provided by nature on account of the fact that Mr. Squid was deprived of his shell.

The squid's body is beautifully marked with iridescent spots and he possesses two large and perfect eyes. Somewhat fishlike in appearance, his ten tentacles terminate in cup-shaped suckers. His month is shaped somewhat like a parrot's beak with two powerful teeth far back on the jaws. Active and powerful, the squid is a terror to small fish, darting into their schools and then right and left like lightning, seizing the small fish by the nape of the neck, and killing them istantly.—"The Listening Post," in the Portland Oregonian.

SECOND "SPEED" FISHERMAN LOST

The rescue of seven men from the Nova Scotia schr. Ruby L. Pentz, while their vessel was afire at sea, was reported to-day at Boston, January 5, in a radiogram believed to have been sent out by the tank steamer Muskogee.

The Ruby L. Pentz, probably bound from Turks Island for LaHave, N. S., was destroyed, the message indicated.

The position given was in the vicinity of Bermuda. The schooner registered 133 tons.

The Ruby L. Pentz was bound home with a cargo of salt from Turks Island. She sailed from Halifax on Nov. 23 for Porto Rico and was about twelve days making the run down. She left Turks Island on the 23d for La Have, and when she was abandoned afire was in lat. 37N, and long. 67.33W, which is south-west of Bermuda.

She was commaned by Capt. Harris Himmelman, of Riverport, who is making his second trip as skipper. Tenah Heckman, of Petite Riviere, was mate, and Warren Bezanson, of Riverport, cook. One of her seamen, Kiah Tumblin, was from LaHave and the other three from Riverport.

In less than three weeks two schooners which competed for the trophy offered for the Fisherman,s Race have been burned. On Dec. 18 the Donald J. Cook, from St. John's Nfld., to Kingston, Ja., was burned and abandoned at sea. To-day the Ruby L. Pentz was reported burned.

The Ciscoes* of Lake Erie.

By WILBERT A. CLEMENS, M.A., Ph.D.
Assistant Professor of Limnobiology, University of Toronto.

Of Canadian waters Lake Erie is now producing almost double the quantity of ciscoes produced in all the other Great Lakes combined. For example, in the year 1919, 7,425,713 lbs. of ciscoes were taken in Lake Erie while 4,022,711 lbs. were taken in the remainder of the Great Lakes. In 1917 the catch in Lake Erie reached the enormous amount of 14,157,839 lbs., while the catch in the remaining Great Lakes was 5,201,026 lbs. That the fishermen of this lake realize the importance of the ciscoes in their fishing industry is evidenced by the fact that the Lake Erie Fishermens' Association requested the Biological Board of Canada to undertake an investigation in order to solve some of the puzzling problems in connection with these fish. In response to that request, the writer was requested to undertake the study. The investigation was carried out chiefly in the summer and fall of 1920 although some preliminary work was done in the spring of 1919. The results of the study were given before the Lake Erie Fishermens' Convention at St. Thomas Feb. 2, 1921, and the present article is based on that address. A detailed report has been submitted to the Biological Board of Canada and is now in press. The writer appreciates the kind assistance given by the following gentlemen in supplying material and in many other ways: Messrs. A. E. Crewe; A. B. Hoover; W. D. Bates; Charles Ross; Roy Ross; Wilson S. McKillop; C. W .Barwell; and R. Kolbe, in particular to Mr. A. E. Crewe, who kindly provided accommodation for the carrying out of the work during the summer of 1920.

Identification of Species.

In 1908 and 1909 Drs. Starr Jordan and Barton W. Evermann made a detailed study of the ciscoes of the Great Lakes in connection with the investigation of the fisheries of these lakes by the International Fisheries Commission. They distinguished five species of shallow water, and seven species of deep water ciscoes, as shown in the following table.

Shallow Water Ciscoes.

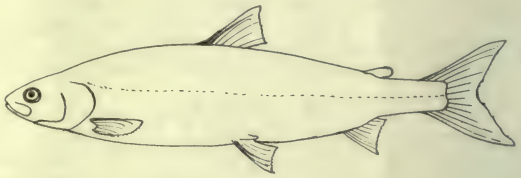
1.—Georgian Bay cisco. Lakes Superior, Mich., Huron, Geo. Bay, *Erie.*
2.—Lake Huron cisco, Mich., Huron, Geo. Bay, *Erie.*
3.—Lake Ontario cisco, Ontario.
4.—Lake Erie cisco, Huron, *Erie,* Ontario.
5.—Jumbo cisco, Huron, Geo. Bay, *Erie.*

Deep Water Ciscoes.

1.—Lake Superior cisco, Superior.
2.—Lake Ontario longjaw, Ontario.
3.—Lake Michigan cisco, Mich., Huron, Geo. Bay.
4.—Blackfin, Michigan.
5.—Bluefin, Superior.
6.—Mooneys cisco, Michigan.
7.—Lake Superior longjaw, Superior.

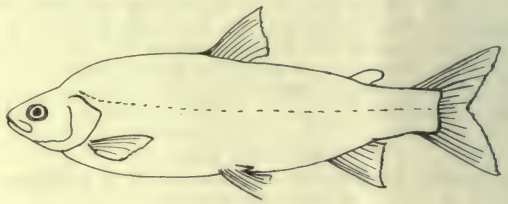
It will be seen that four of the shallow water but none of the deep water forms were reported in Lake Erie.

The first problem was to determine if these four species were still present in the lake and if any others might be present. From June 14 to August 24, 1920, the ciscoes taken in 20 pound nets of the Crewe Bros. Fishery near Merlin were examined daily. In August and November the fish taken at Port Doven, Nanticoke, McKillop's Fishery (near Port Maitland) and Dunnville were examined. Besides this, shipments of fish from various points on the lake were examined in Toronto in the spring of 1919 and the fall of 1920. Accurate measurements were made of a very large number of individuals, weights determined and scales removed for age determination. As a result of this study the following species have been identified as occurring in Lake Erie:



1. The Lake Huron cisco—(*Leucichthys sisco huronius*).

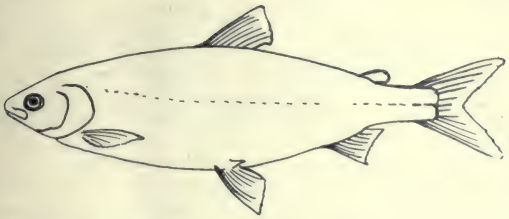
This species is readily distinguished by the long spindle-shaped body. The body is slender and the tail very narrow. This fish is taken rather abuntantly in the pound nets at Merlin and vicinity.



2. The jumbo cisco (*Leucichthys eriensis*).

The outstanding characteristics of this cisco are 1) The very deep body. 2) The more or less pronounced hump at the nape. 3) The deep tail. 4) The relatively large scales. It is noted for the large size attained as compared with the other ciscoes. From Rondeau to Point Pelee it is the most abundant species taken in the pound nets. It also occurs in large numbers eastward to Long Point but appears to become very much less abundant beyond this point.

* The word cisco is here used instead of herring for all the fresh water herring except for the tullibees in accordance with the list of standardized names of North American fish as agreed upon by the U. S. Bureau of Fisheries, the Biological Board of Canada, and the Canadian Fisheries Association.



3. The Lake Erie cisco or grayback (*Leucichthys artedi*).

This species is distinguished from the jumbo by 1) the somewhat narrowed tail 2) the body not as deep and very little or no hump at the nape. 3) the smaller scales with a more dull silvery appearance 4) a much slower rate of growth as shown in the following table and referred to later in the discussion of the results of the scale examinations.

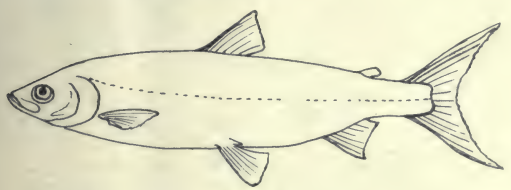
Lake Erie Cisco.

No.	Date	Length in.	Wt. oz.	Age yrs.
600	July 8	9¼	6	4
601		9¾	6	5
602		9¾	6	5
603		10	6	5
604		9⅜	6	5
605		9⅞	6	6
606		9⅝	6	5
607	July 9	10⅛	7	6
609		10	7	5
610		10⅜	7	5

Jumbo Cisco.

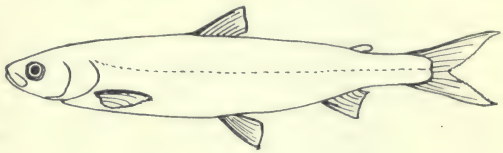
No.	Date	Length in.	Wt. oz.	Age yrs.
234	July 8	9¼	6	3
235		9¾	7	3
237		9¾	7	3
238		9¾	8	3
239		10	8	3
240		10¼	9	2
241	July 9	10½	9	3
242		12	12	4
243		9⅝	7	3
244		10¾	10½	3

The Lake Erie cisco occurred in numbers at Merlin next in abundance to the jumbo and apparently occurs abundantly throughout the lake.



4.—The Lake Ontario longjaw (*Leucichthys profnathus*).

In both the pound nets and gill nets from Port Dover to Port Maitland a cisco occurs very abundantly which has apparently come into the Lake from Lake Ontario. This is the opinion of Dr. B. W. Evermann to whom specimens were sent for identification. The distinguishing features of the longjaw are 1) the long lower jaw which usually projects beyond the upper and in extreme cases almost hooks over it. 2) the long bony snout. 3) the narrow tail. 4) the shiny appearance of the scales. 5) the rather deeply forked tail fin. This species varies greatly and in many cases is difficult to distinguish from the Lake Erie cisco. Only a single longjaw was taken at Merlin during the summer of 1920 on August 24. However, a fisherman at Point Pelee has stated that he recalled having seen during one spring rather large numbers of small longjaws taken in the pound nets in that region. This would indicate a migration during the winter or spring months when temperature conditions of the water would be rather uniform throughout the lake.



5. The Georgian Bay cisco (*Leucichthys harengus*).

A few individuals were taken which agreed closely in measurements and description with the Georgian Bay cisco. Since Jordan and Evermann report this species in Lake Erie no doubt the above mentioned individuals were of this species. Its numbers certainly are very small. The Georgian Bay cisco in Lake Erie is apparently small and slender with a particularly narrow tail.

Some of the above mentioned differences are shown in the following table of proportional measurements. These proportions have been calculated from the measurements of from 60 to 150 individuals of each species.

	Length of head divided into length of body	Depth of body into length of body	Depth of tail into length of head
Georgian Bay Cisco	4.2	4.3	3.1
Lake Huron Cisco	4.6	4.3	2.95
Lake Erie Cisco	4.26	3.7	2.86
Jumbo Cisco	4.4	3.5	2.44
Longjaw Cisco	4.22	3.88	2.87

Rates of Growth.

The scales of a fish may be used to determine the age. When examined with a microscope a scale shows a succession of fine lines some of which are crowded together while others are relatively well separated. It has been shown that the areas of crowded lines are laid down during periods of slow growth that is, during winters; while the areas with well separated lines are laid down during periods of rapid growth, that is, during summers and falls. The scale therefore indicates with a fair degree of accuracy the number of summers and winters a fish has passed through. It may be recalled here that the age of a tree is estimated in a similar manner.

Scales from approximately the following number of fish of each species were examined: Jumbo 140. Lake Erie cisco 55. longjaw 150. Lake Huron cisco 55. The following table gives the results obtained for the three important commercial species in Lake Erie. The length

is from the tip of the snout to the end of the tail fin in its centre; the girth is taken immediately in front of the dorsal fin.

Age	Jumbo cisco			Lake Erie cisco				Longjaw				
	Length in inches	Weight in ounces	Girth in inches	Length in inches	Weight in ounces	Girth in inches	Length in inches	Weight in ounces	Girth in inches	Length in inches	Weight in ounces	Girth in inches
1	4	1½	6	3 5/8	3	4½	3					
2	6½	3½	7½	7	4½	5¾	5					
3	9	7	8½	8½	5½	6 1/3	7	3	4½	3		
4	11½	11½	9½	9½	7½	6 2/3	8½	4	5	5		
5	13½	17½	10½	10 1/3	9½		9¾	6	5 2/3	7		
6	15	25½	12	11	12½		10 2/3	8	6 1/3	8½		
7	16	32		11½			11½	10		9½		
8	17	37½								10½		
9	17½	42½								11½		
10	18	47½								12		
11	18½	52½										

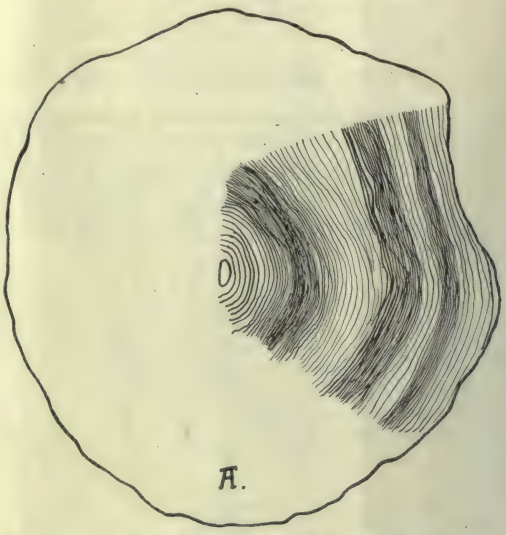
The difference in weight between the Lake Erie cisco and the longjaw may be due in part to the fact that the latter were taken chiefly in November when the females were heavy with spawn.

Conclusions.

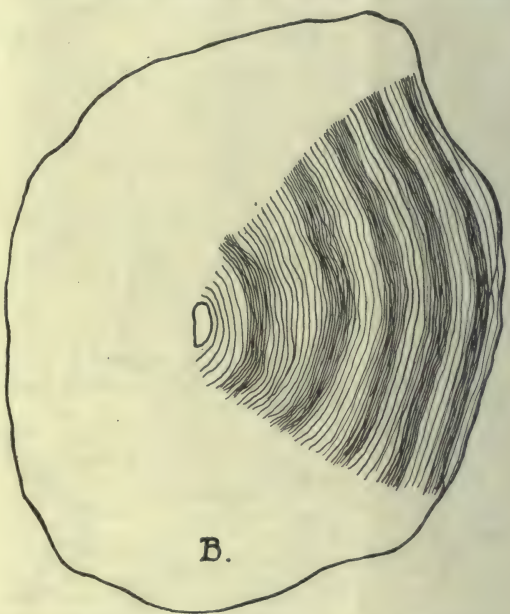
1.—Three species form the bulk of the cisco catch in the Canadian waters of Lake Erie, namely the jumbo cisco, the Lake Erie cisco and the longjaw.

2.—The jumbo is the dominant species westward from Long Point and the longjaw eastward from Long Point. This statement holds in general, for the former appears to prefer the shallower water, while the latter is apparently a deep water form. However their ranges tend to overlap and their migrations at times take them into one another's territory. For example fishermen have reported occasional schools of longjaws as far west as Point Pelee and on the other hand the jumbo is reported as abundant at times off Port Maitland. The Lake Erie cisco occurs abundantly throughout the lake but probably in greatest numbers west of Long Point.

SCALES OF LAKE ERIE CISCOES.



A. Jumbo Cisco 10¼ inches, 9 oz. and in its 4th summer.



B. Lake Erie Cisco 10 in., 7 oz. and in its 6th summer.

3.—The Lake Erie cisco and the longjaw have rates of growth and increases in weight which are practically identical, while the jumbo increases 1 1|3 times faster in length and two to three times faster in weight.

4.—Examination of the tables shows that the optimum size for the taking of the jumbo is from the fifth sum-

mer upward when they are at least 12 inches in length and 1 pound in weight. For the Lake Erie cisco and the longjaw a minimum length of about 10 inches and a weight of 6 or 7 ounces when the fish are in the sixth summer would appear to be quite satisfactory.

5.—Concerning the occurrence of smaller ciscoes in the eastern end of the lake, this much can be safely said; that in respect to gill net catches, the fishermen in the western portion of the lake secure a larger percentage of jumbo ciscoes and therefore get large fish, while the fishermen in the eastern end, particularly off Port Maitland, scure chiefly the smaller species, the longjaw and the Lake Erie cisco. The same facts apply to the pound net catches, with the addition that, since the young inhabit the shallow waters, and the shallow water area east of Long Point is more limited, there appears to be a concentration of young ciscoes along the shore, particularly in Long Point Bay, and hence the young are more apt to be impounded in large numbers in the pound nets.

6.—No information was obtained as to the age when the various species spawn for the first time. It is probably at the end of the third summer, and, if so, the six-ounce regulation protects the Lake Erie cisco and the longjaw in respect to being allowed to spawn at least once but does not protect the jumbo since it attains a weight of six ounces in its third summer.

7.—The girth measurements were taken around the body just in front of the dorsal fin, that is, where the greatest girth occurs. The results show that the 3-inch gill net regulation is satisfactory for the Lake Erie cisco and the longjaw since they do not attain a girth of six inches until the sixth summer, but it barely protects the jumbo since this species attains a girth of six inches in 3 years.

7.—In any undertaking for the artificial propagation of ciscoes in Lake Erie, at least for the region west of Long Point, particular attention should be given to the jumbo, because of its rapid growth and its excellent qualities as a food fish.

This study has proved to be merely preliminary. The ciscoes of Lake Erie form a complex association and it has been impossible in this investigation to determine their inter-relations or to study the physical factors in relation to the various forms. Solution of the many difficult problems must await a thorough study of the physical conditions of existence in the various parts of the lake, such as distribution of temperatures, oxygen, carbon dioxide, currents, etc., and the relation of these factors to spawning, growth, movements of the fish as well as to the production and distribution of their food organisms.

NEWS SCRAPS

The fishing town of Liverpool, N. S. narrowly escaped destruction on the night of Desember 30 when fire broke out in the central part of the city. A northeast gale was raging at the time and it was due only to the stupendous effort of the firemen that the destruction was limited to a single block.

The Gloucester fisherman, Mariner, Capt Pat Shea, recently lost a propellor on Georges Bank and was drifting aimlessly about when picked up by the Breaker, of which Shea's brother John was skipper. The Mariner was towed into Boston where the two brothers met another of the family, Michael, who brought the Surge in with a good cargo of fish.

A CHANCE FOR GASPE TO GET AWAY FROM SPECIALIZED FISHING.

Would seem to be opportunity for Gaspe to supply fresh fish to interior markets without damaging other sources of production.

Is it practicable to build up on the Gaspe coast a trade in fresh fish on something of the proportions attained in Nova Scotia? There are two views on the question. One is that the Canadian market is well supplied with sea-fish, which means that any increase in fosh shipments from the Gaspe region would force a corresponding decrease in the movement from established sources. Another, the more logical, is that there is room for both. While some of our interior markets are adequately provisioned according to our present standard of fish consumption, there is a vast population not yet within reach of a supply.. Fully one-half of the Canadian people get little or no sea-fish. At any rate it is not sufficiently regular to warrant a consistent use of it. Therein appears to be the opportunity of extending the home market and enabling Gaspe fishermen to get a share in the business.

It will be interesting to cite a few facts in connection with the Gaspe fishing industry. It is primarily an export business. Using 1920 statistics, more than eighty-six per cent (in value) is in dried cod. Only 2.38 per cent of the total catch of all fishes is marketed fresh, and only 7.9 per cent in value. In reality, Gaspe fishermen are highly specialized. Cod curing is their chief occupation and they are always more or less insecure inasmuch as foreign demand for the commodity may be suddenly cut off or rendered unprofitable. From an economic standpoint it is desirable that they should have an interest in some other department of trade and the handling of fresh fish suggests itself as the logical means of overcoming the situation.

There is already a certain movement of fresh fish from Gaspe, but it is so small in proportion to the total production, that it is not important. About one seasonal shipments of salmon, smelts, markerel and and one-half per cent of the cod is used fresh and lobsters, make up the total of 2.38 per cent consumed fresh.

The Fisheries Branch, Departement of Marine and Fisheries, Ottawa, has arranged with the Canadian National Express Company to run special express equipment to Gaspe, giving a through service to Montreal two or three times a week as required. The service will not begin until next spring, but announcement is made now in order to give Gaspe fishermen a chance to prepare for the trade. The attention of each individual on the coast in a position to engage in the business is being drawn personally to the improved transportation arrangement and the department at Ottawa is hopeful of getting Gaspe fishermen thoroughly interested.

IRISH RETALIATION.

An Irishman was involved in an argument with a Scotsman, and repeatedly called up "good old St. Patrick" to witness the fact that he was telling the truth.

Much annoyed, the Scotsman said: "To the blazes with St. Patrick!"

But the son of Erin promptly countered with 'To the blazes with Harry Lauder, then!"

DISASTROUS YEAR FOR LUNENBURGERS.

Record Catch per Vessel Although Aggregate Take Was Not Big.

Lunenburgh. — From all quarters come tales of strict economy, instituted by the people, who realize that war wages, and war prices for farm products, and the products from the sea have ceased, and it is generally understood that the house has to be put in order to meet the changed condition of affairs, as sooner or later things have to come down to normal. During the war fish had attained the extraordinary high price of $15.25 per quintal, our people increased their expenses and up to the standard of their increased income, and now that fish have dropped to $6.25 per quintal it seems difficult to curtail much of the extravagance created by the great upheaval. But all peoples are doing it, and now it has come to us.

As far as catch was concerned, the season was eminiently successful, the total number of quintals being 269,830 divided up among ninety-five sail of vessel, making an average of 2840 quintals per Schooner. This has been the largest number of quintals per vessel since the Grand Bank Industry has been instituted. Ordinarily it would be considered a prosperous year, but with the low price, and the high cost of outfits, the year is not considered a prosperous one. While fish have dropped over one hundred percent in price outfits have only come down twenty per cent, so that it can be clearly seen that many of the vessels have not paid expenses, and others have not paid dividends.

Twenty cargoes or fifty thousand quintals still remain unsold, the holders waiting for higher prices, without much prospect of success. In this way a large amount of capital is locked up and money is a scarce commodity. Yet with all those interested in fishing are optimistic, and are looking forward cheerfully for another prosperous year, when conditions will have dropped to a pre-war basis, and our favorite industry will get back it its proper status.

It has been a disastrous year for three-casters, and coasters. Eleven three-masters, and coasters. Eleven fishing schooners have been sold, as follows:—

Vessels lost during the year 1921:
Schooner Vogue, total loss, Nov. 17th, 1921.
Schooner Mildred G. Myers, total loss, Nov. 15th, 1921.
Schooner Impressive, total loss, Dec. 30th, 1920.
Schooner J. E. Bachman, total loss, Sept. 4th, 1921.
Schooner Bernice R., total loss, Aug. 22nd, 1921.
Schooner Innovation, total loss,, Aug. 26th, 1921.
Schooner Namara, total loss, Sept. 12th, 1921.
Schooner Con Rein, total loss, Aug. 29th, 1921.
Schooner Viccola, total loss, Dec., 1921.
Schooner Donald J. Cook, total loss, Dec. 19th, 1921.
Schooner Canadian Maid, total loss, April 12th, 1921.

Much of the foreign trade this winter is being conducted by the ordinary fishing schooners, as it is considered that they can be operated more cheaply than the three-masters, and it is easier to get full cargoes for them than for the large type of vessels. The disposition is to operate the old vessels, and save money and wait patiently until the return of cheap wages, cheap canvas, cheap sails and cordage before renewing the shipbuilding industry to any great extent.

In connection with the industry's vehement protest against a continuation of the policy of keeping the fisheries administration under a deputy minister unfamiliar with the industry can we depend upon Premier King to come to the point and Lapointe to us?

WHAT EFFECT WOULD FORDNEY TARIFF HAVE ON OUR LAKE FISH?

Seems to be little justification for discouraging rumours that producers contemplate going out of business.

Considerable speculation has been going on as to the future of the fish trade on our Great Lakes and inland areas of the middle west, should the Fordney tariff measure of the United States become effective without modification. The question is a vital one as practically the entire production of our Great Lakes and the major portion of the fish taken from our northen lakes find an outlet across the American border.

The situation in so far as the Great Lakes is concerned is probably the most interesting. Nearly two years ago it was pointed out to the Lake Erie fishermen in convention at St. Thomas that less than five per cent of their production was finding an outlet in the home market. While there was a big market to be served in Ontario, it was being neglected for the more profitable and more easily supplied American demand. Press reports state that certain lake fish concerns contemplate going out of business in the event of a high tariff being introduced, because of the heavy cost of developing a local market to consume their production. Whether this information is reliable it is impossible to say. First knowledge of the effect of the Fordney measure on fish may have taken fishermen off their feet, but a more sober study of the situation would hardly seem to warrant such a drastic step. No doubt the cheap grades of lake-fish which went to supply the lower classes in American cities may lose their popularity by the addition of a cent-a-pound duty, but whitefish and other fine grades, in demand by a better class of consumer, will, it seem, not suffer so seriously. They are in demand and production on the other side of the border is not sufficient to satisfy the demand. Perhaps for the time Canadian trade will slacken, but the ultimate effect may be to raise the price of American-produced plus duty.

No authority can state definitely how the tariff may alter conditions, and it would seem producers would be well advised not to be unduly pessimistic. It must be remembered Canada has sold large quantities of fish to United States prior to 1913 with a duty handicap. Experience is the only guide and trade statistics of the years prior to 1913 when the Payne-Aldrich tariff was in force, should be of value to students of the question.

TRAWLER'S STORMY TRIP.

After nearly three weeks spent on the Banks, during which time she encountered continuous gales and rough seas, the steam trawler Sir John French, Captain David Bachman, arrived in port recently with only about 300 quintals of salted fish. The trawler had a deckload of about three thousand pounds of fresh fish and lost it in a heavy gale on Monday night, when seas swept the small craft from stem to stern.

CHINESE FISHERIES.

To facilitate the training of the students at the two Fishery Training School at Tinghai, Chekiang, and Haichow, Kiangsu, the Ministry of Agriculture and Commerce has decided to purchase modern launches, from which new methods of fishing by the latest processes will be taught.

PACIFIC COAST SECTION

SALMON SEALING DISPENSED WITH.

British regulation affecting Canadian frozen fish modified, but not in case of Atlantic species.

The regulation of Fishmongers' Hall, London, which compelled the tagging of imported frozen salmon during the season when it is illegal to fish for salmon in Scotland, has been greatly modified, according to word which has been passed on to British Columbia firms through the Department of Marine and Fisheries, Ottawa.

Heretofore when the salmon were taken from storage in the Old Country they had to be unpacked and individually unwrapped and the metal seals adjusted. Fishmongers strenuously objected to the practice as it tended to deteriorate the quality of the fish and at the same time retard its distribution and sale.

As the sealing was done in the Old Country Canadian exporters on both coasts were not greatly interested in the controversy. It had been proposed that the sealing be done in this country under the supervision of government officers, but as it meant additional work and trouble, shippers couldn't see the proposition at all.

It is understood the department at Ottawa recommended to Fishmongers' Hall, that the cumbersome system be done away with. In consequence Fishmongers' Hall advises that it will not now insist upon sealing, providing British Columbia shippers enclose with each individual salmon a declaration to the effect that it was legally caught in Pacific waters. An anomalous situation prevails in that Atlantic salmon must be tagged as heretofore, the reason given being that the species is the same as that caught domestically, while the Pacific species are distinctly different.

While the change will not facilitate the shipment of salmon, it is hoped that British Columbia shippers will accept the proposal. It will facilitate the marketing of fish in the Old Country, and as a matter of principle every reasonable concession should be made to make our fish popular abroad. We must cater to the wishes of our buyers. What they say should be our law.

IT IS ALL GOOD PUBLICITY.

At a recent meeting of the Vancouver branch of the Canadian Fisheries Association, Mr. F. A. Goss suggested that the Vancouver Exhibition Association be approached and asked to re-habilitate the aquarium and also to grant some concessions in respect to having a first class fisheries exhibit at the annual exhibition which is held in August or September of each year. Many thousands of visitors from all over the country attend the exhibition each year and such good will be accomplished by having such an exhibit.

The writer has been wondering how many local exhibition associations all over Canada could be utilized by the fishing industry to bring fish before the public at a time when the people are out to see things that are manufactured and produced in Canada.

An aquairum is always a source of interest whether it is in a store window or on the exhibition grounds and in connection with the sale of fish or the exhibition of fish is bound to attract a great deal af attention.

Every good source of publicity in connection with the fishing industry should be utilized to the best of advantage by those interested in the industry.

ORIENTAL PACK OF SALT HERRING.

It is estimated that there will be about 20,000 tons of dry salt herring shipped to the Orient this season at an average price of $40.00 per ton C.I.F. This is below what the packers hoped to be able to ship.

There are very few herring being packed on the West Coast of Vancouver Island at this time as most of the packers are now operating at Nanaimo, on the east coast.

There is some report around that Kobe will again be the central distributing point in the Orient for the British Columbia pack of dry salt herring but the writer believes this is doubtful as the white packer is getting a stronger foothold than ever each year and will not allow the Japanese packer to control things at the marketing end.

"A certain shipping journal in Vancouver says the following in regard to the Japanese in the dry salt herring industry.

"The general trend of the trade seems to be inevitable (no matter how much deplored) return to distribution through Kobe. The Japanese began the trade and grew up in it. The trade is essentially an Oriental one in every aspect. Kobe dealers can finance their shippers on the cost-plus-freight basis, thus allowing the shipper to get the ruling prices on arrival. The Japanese shipper plays this game well. He ships on the cost-plus-freight basis to Kobe during November and December and gets returns considerably higher than if he sold outright. Then later in the he sells outright."

There is one reason for distribution through Kobe more than through some Chinese port (and it is well to remember that the great bulk of these salt herring are consumed in China although Japan, Formosa and Manchuria are also heavy users), and that is because the great majority of steamers now go direct to Kobe. When direct lines go to China in larger numbers then the Chinese merchants will buy direct. The white packer will deal as direct as possible with the Chinese merchants.

The same journal also says:

"It seems a pity that unwaranted antagonism should be offered the Japanese packers and shippers. They have been found to be willing to work with exporters and assist them in every way possible. But if inexperienced packers drive the trade back to Kobe, it is only a matter of time when the trade will be done through Kobe entirely. It was only the war that gave us the opportunity of dealing direct with China. The industry means a lot to B.C. in the shape of boxes, salt, wages, etc. and also to the steamship companies".

The statement "It seems a pity that unwarranted antagonism should be offered Japanese packers and shippers" does not somehow harmonize with the general idea of conserving B.C. industries for Canadians and why antagonism is unwarranted when Canadians

wish to control their own natural resources does not seem to be reasonable to the writer.

Another statement: "But if inexperienced packers drive the trade back to Kobe, it is only a matter of time when the trade will be done through Kobe entirely". From what the writer has been able to find out the packs of dry salt herring being marketed by the white packers is improving each year as they are studying the best methods of curing and grading which most of the Japanese packers ignored, in most cases the Japanese idea being to get as much weight as possible upon arrival in the Orient and sorting for sizes not counting at all.

Without doubt the white packer is in the game to stay and this is as it should be with the result that ultimately the Canadians will control their own natural resource.

CANNED SALMON MARKET.

With a small amount of canned salmon on the market at the present time one would naturally think that the salmon canners would be getting ready to put up a large pack for 1922, but this does not seem to be the case. Most of the canners are looking forward in 1922 with an uncertain feeling as to the quantity it will be advisable to pack providing they can get the fish. Should prices stay at the level that is now prevailling the packers claim it will not be advisible to pack heavy, but if there should be a firming up and more stability to the market then they would go ahead with bigger ideas as to quantity, as it is now there is nothing moving and it is between seasons in the selling end.

FLOODS INTERFERE WITH PROCESS OF FISH PROPAGATION.

Salmon egg collection in British Columbia very encouraging, however, in view of extraordinary condition.

The recent floods in British Columbia have rather upset the general order of things in salmon spawning. The abnormal conditions undoubtedly interfered with commercial fishing, allowing more than the normal number of fish to ascend the rivers and seed the spawning grounds. On the other hand the natural beds have been seriously disturbed by Nature's violence and the work of the government hatcheries has been hampered. On the whole it is doubtful that a sufficient number of salmon above the normal has escaped the fishermen to compensate for the large number of eggs destroyed in the beds.

Despite this setback to fish cultural work, general results in the British Columbia hatcheries have been good. In connection with the Pemberton hatchery, for example, the run of salmon was not as great as last year, but it was equal to that of 1919 and 1918, and fully five times that of 1917 the last "big run year," which would appear to be a very encouraging indication.

The total collection of eggs in this district while not as large as last year, totalled 27,000,000, which is considered exceedingly satisfactory in view of conditions.

Are We Going to Retain Markets for Dried Cod?

Keen competition puts question squarely up to fishermen—"Are you going to make a better job of curring?"

Canned fish exported from Canada is well received in the markets of the world. Generally speaking it meets competition in quality and price. The same applies to our pickled fish. For this there is a reason. Our canned fish must measure up to government standard provided in The Meat and Canned Foods Act, while the Pickled Fish Inspection Act makes strict provision for the proper curing, grading and packing of pickled fish. But our dry salted fish and particularly our cod on the east coast, free from any set government standard, is under indictment.

The situation briefly is as follows. The markets for our dried cod are chiefly the West Indies and South American countries. Prior to the war we had as competitors in these markets Great Britain and Norway. During the war years European sources of supply were cut off and we were given a wonderful opportunity to build up a demand for our fish. Statistics show in some cases a hundred per cent increase in trade. With the return of normal conditions, however, competition is reviving and it is keener than ever. Norway is making a tremendous effort to not only recover her pre-war share in the West Indies and South American trade, but to capture more. A tariff war has driven her from the Spanish market—formerly her chief outlet—and trade emissaries have been sent out from Christiana, it is said, with instructions that the trade must be secured. In the Cuban market a splendid quality of Norwegian cod has been offered for fifty to seventy-five cents per quintal less than our product, admittedly less carefully cured. On top of this Great Britain is re-entering the field. France is lending special energy to develop her fisheries, Japan is searching for world trade and is placing cod on this continent. Germany, likewise, promises to add her name to the list of competitors.

Our business is to preserve the proportion of the business we had in 1918. The markets are logically ours. We are close to the source of supply and closer to the markets than any of our competitors, excepting the United States. Supplies so readily at hand are a great convenience for West Indies buyers. They may secure shipments from Nova Scotia in three or four days, whereas movements from Europe are slow and the market may have changed completely before their arrival.

But even with this convenience foreign buyers are not going to continue to take our inferior fish. We have got to produce a better quality. Our fishermen on the east coast have had the matter brought very forcibly to their attention and it is to be hoped they will see the wisdom of making a better job of curing. They know exactly what is wanted and how to meet the situation. They have not been obliged to exercise care with their cure during the war because sales were easy. They must realize that sales are not so easy today, and if markets are permanently lost through continued neglect, they are the ones who suffer most..

The Codfish Cure for Various Markets.

A Newfoundland fish exporter of wide experience thus describes the kinds of codfish wanted in different markets. For the South American Republics (except Brazil) the fish must be large and medium, that is, from 20 inches up; it must be hard dried and have no dampness or moisture, and be packed in thoroughly kiln-dried boxes. The same fish is required for the Cuba market. Porto Rico will take large and small of not quite so good a quality. It must be hard dried, however, and may be packed in casks like that which goes to Demerara and Trinidad. For Brasil all fish must be thoroughly dried and packed in drums of 128 lbs. Fish for Portugal must be well made,fairly well dried, but not so hard dried as that which goes to the South American Republics; and Portugal will take large, medium, and small. Spain wants large and medium, not particularly hard dried; it must be a fat fish showing a yellow cast. This is shore fish. Spain also takes Labrador. It must be cured clean, with at least two days' sun, and have 18 hogheads of salt to the 100 puintals. Italy repuires a small, hard dried shore, fish No. 1 quality; as regards Labrador, Italy wants the same as Spain. Greece takes no shore fish — all Labrador, and these must be the same all round as Spain and Italy. After shore fish is out of the "water-horse" stage it should be first spread back up, and when taken up it should be laid face up in the piles if you wish to have it a smooth-surfaced fish suitable for the Spanish market, particularly if it is heavily salted, as the salt will go to the back and will not come out on the face, which is so often the case when the fish is heavily salted. It should also be bulked face up in the stores, when taken in off the flakes. This is a departure from the usual process, but recent experience shows it is best to pile and bulk the fish face up to have picture fish for the Spanish market.

A young lady recently wrote to a country newspaper asking if there were any editors in Heaven. The editor replied: "There is but one editor in Heaven. How he got there is not positively known, but it is conjectured that he passed himself off as a physician. When the dodge was discovered, they searched the length and breadth of the realms of felicity for a lawyer to start ejection proceedings,but they couldn't find one,so, of course,the editor holds the fort."

THE LUCKLESS FISHERMAN

They laughed when I came home last night,
And said Ididn't get a bite,
They snickered an' they joked at me,
And all the fellows asked to see
The ones I'd caught. "Oh!" said they,
"He's been out fishing all this day
An' hasn't caught a single thing,
He never got a fish to string.
They laughed at me, but all their jeers
Travelled no farther than my ears,
'Twas true I'd fished all day without
Snaring a single, speckled trout,
But what of that? I'd had a day
That I could loaf and dream away,
I'd chummed with birds and friendly trees
And been as care-free as the breeze.
I'd rested wheresoe'er I'd willed,
To me the hum of trade was stilled,
I'd let my thoughts go wandering far
To where life's happier glories are;
I'd whistled like a boy once more,
And even stretched full length on shore
To watch the white clouds sail the blue,
The very way I used to do.
They laughed when I came home at night,
An said I didn't get a bite,
They seemed to think my luck was bad
They couldn't guess the fun I'd had,
And couldn't know that all that day
I'd been a free man, blithe and gay,
And though of fish I'd landed none.
I'd caught the joys for which I'd gone.

Edgar A.Guest.

Andrew Halkett, Naturalist of the Fisheries Branch, Department of Marine and Fisheries, Ottawa, left Monday, January 16 on a lecture tour which will take him along the New Brunswick coast of the Strait of Northumberland and Gulf of St. Lawrence.

Mr. Halkett's address, which will be illustrated with lantern slides, will deal with the natural history and conversation of the lobster which has been the subject of close investigation by him for several years past.

He will also discuss the cause of discoloration of canned lobsters and the necessity for proper sanitary conditions in and around the various lobster canneries.

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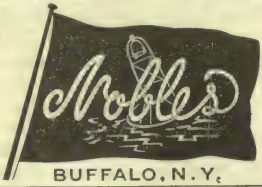
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THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association

VOL. IX GARDENVALE, P. Q., FEBRUARY, 1922 No. 2

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John Leckie Limited

77 Wellington St. W. - TORONTO, Ont.

-:- EDITORIAL -:-

JAMES H. CONLON, Editor

NOTICE

The publishers of the Canadian Fishermen announce that dating from April 1 subscription to this journal will cost two dollars ($2) instead of one dollar ($1) which is the prevailing rate. Those whose subscriptions are about to expire and those desiring to become new subscribers are advised to communicate with this office before April 1.

WE WANT ACTION NOW!

The situation has now been reached where the industry would like to have some government pronouncement as to whether or not a separate fisheries department is going to be set up. From every fishing constituency in the country, from every centre where the fish business is carried on, and from boards of trade, the Canadian Manufacturers' Association and from other bodies that have the interest of our national industries at heart, the Hon. Mackenzie King and Hon. E. Lapointe have received urgent messages that this very modest request of the industry be granted. Now it is all very kind of the Prime Minister and the Minister of Marine and Fisheries to express sympathy with the trade and promise the 'closest consideration.' This stereotyped courtesy ceases to satisfy us. What we want is *action*. There is nothing so very weighty to consider that should cause such undue delay. The entire departmental machinery is already on the job. All we ask the government to do is to place the whole responsibility of administering the fisheries in the hands of fisheries officials and not leave the final say to a deputy head outside the fisheries department whose interest in matters pertaining to the industry is very superficial. And we are not asking for this necessary reform with the idea of getting it ten years hence. We want it and need it and expect it now.

The Canadian Manufacturers' Association has arranged with the government at Ottawa to receive a deputation from that body on February 22, and unless action has been taken in the meantime, a delegation from the Canadian Fisheries Association will appear at the same time and present to the members of the cabinet the case for a separate fisheries department. Arrangements have been made, too, for the Minister of Marine and Fisheries to receive a deputation from the fishermen the day following and if there is any further information he requires to get quick and definite action in the cabinet it will be available to him. Above all, the Canadian Fisheries Association wants something done at this sesson of Parliament. We can see no possible reason for refusing our request, not even on an economy plea, because a separate departement will cost not a single cent more. What slight salary increases automatically follow may be secured, if the government is averse to an addition of $5,000 or $6,000, by cutting down on fish culture.

It may be that the Prime Minister and Mr. Lapointe have not shared with their cabinet colleagues the news of our insistent demand for a separate department. Perhaps it is overshadowed by more weightly matters. That may be. But from our standpoint it is of eminent importance, and inasmuch as we are working one of the greatest basic resources and are in a position to know what is good for the industry, we feel entitled to consideration.

LAUNCH EDUCATIONAL MOVEMENT.

National Fish Day went big. The idea of the movement was splendidly conceived and we trust that in our time it will not cease to be an annual institution. It is not alone the immediate financial remuneration due to the day's increased fish sales, which makes it of such value, but it furnishes an opportunity for the press to turn the attention of our people to the vastness of the wonderful food resource which is our heritage. Our people must have greater knowledge concerning the industry and until adequate means are found of educating them we must rely largely upon the power of the press.

The lamentable lack of literature bearing upon the industry is a reflection not only upon our industry but upon our libraries and institutions of learning. There is not a single public or school library on the contingent that can satisfy requests for fishery literature; and the sad truth of the matter is that while we have many, many volumes on fishes and fishing there are very few of them denuded of scientific and technical verbiage to make them attractive and informative to the layman.

It was this situation which was considered on National Fish Day when scientists and educational workers were brought together in Montreal to form a technical section of the Canadian Fisheries Association; and it is to fill this want that the new organization will apply its effort. The task is tremendous and our beginning is extremely humble. But how many similar

noble undertakings have had a less auspicious beginning!

Those who attended the meeting were J. A. Paulhus, vice-president of the C. F. A., Dr. A. G. Huntsman of the Biological Board of Canada, J. J. Cowie of the Fisheries Department at Ottawa, J. J. Harpell, publisher, and James H. Condon, secretary of the C. F. A. Mr. Harpell was chosen president of the new section, Mr. Cowie vice-president and Mr. Conlon secretary, and the following were appointed a text book committee to select and compile literature suitable for continuation and reading classes and school and public libraries — Dr. Huntsman, Dr. McLean Fraser, J. J. Cowie, Capt. F. W. Wallace, New York, Prof. John N. Cobb, Seattle, Dr. R. E. Coker, Bureau of Fisheries, Washington, and J. T. Hoyle, professor of English and printing, Pittsburg, who has been engaged to edit the works put out by the committee.

The undertaking is a tremendous one and it is natural that the government should be expected to give material assistance to the enterprise. It is a work which was inaugurated in a small way within the department at Ottawa a few years ago, but the new movement contemplates a much wider sphere and a more penetrating propaganda. It will be some time before the actual work of preparing literature will be commenced, but in the meantime it is the intention to secure a series of the most appropriate works now in print and make them available for juvenile and adult reading. As plans ripen the new body will be enabled to place some concrete proposition before the government, which has, heretofore, been very ready to lend assistance to educational campaigns of this kind.

WHAT'S BEING DONE ABOUT IT?

As we remarked in our last issue, the sockeye situation in Puget Sound and the Fraser is too serious to leave it stand for another year and we hope that our authorities at Ottawa are doing their utmost to re-establish negotiations for co-operative protection and conservation of the species. But almost as vital to the industry of the western coast is the halibut fishery and unless similar drastic action is taken at once the Pacific halibut will in a few years time figure among the "has beens" of our waters, in a class with the dinosaurs and mastodons which roamed our western plains ages ago.

Like the sockeye problem this matter was admirably solved by the Canadian-American Fisheries Conference of 1918, and without impartiality we must recognize that the government at Ottawa took every possible step to make the recommendations of the conference effective. Not so at Washington, however. We are not in a position to say what part politics had to play between the State of Washington and the U. S. National Capital but certain it is that the north Pacific states recognized the necessity for conservation of the sockeye and halibut while the national government refused to affix its signature to the treaty giving effect to such measures. This is putting the matter bluntly but, nevertheless, truthfully. It is not our fault that the destruction of the species continues, but that fact does not absolve us from future responsibility. International dignity is necessary in some cases, but, having a commercial turn of mind we are more interested in conserving these valuable sources of wealth and food, than in maintaining diplomatic niceties. We exhort everyone interested, and that covers a great number, to bring very ounce of influence to bear to have a new international conference on fishery matters set up immediately. We have many outstanding problems and we imagine our cousines to the south are just as anxious for an understanding on them as we are.

Not that we hope for any better solution of the halibut question than that recommended in 1918 which provided for a close season between November 15 and February 15 each year for a period of ten years. There must have been some other phase of the treaty, remote possibly from the halibut issue, which caused the collapse of he whole programme. If necessary deal with questions at issue individually, and do not let us risk the future of the Pacific industry on any extraneous question. We are not interested in how results are brought about; whether negotiations are with individual states or with the U. S. capital. What we are vitally interested in are results.

HOW NEWS DOES TRAVEL.

News that hostilities have ceased on the battlefields of France and Flanders must eventually have reached Premier Drury of Ontario in his splendidly isolated sanctum sanctorum at Toronto. Why? Announcement has just been made from the Queen City to the effect that the government was making preparations to retire from the fish business and planning to get its nets out of Lake Nipigon and Lake Nipissing. When the former government instituted the policy of catching and selling fish in competition with established trade it was under the pretext of a war measure, to supplement diminishing food supplies. The wonderful inventions of the past century — the cable, the telegraph, the telephone and the wireless — those magical vehicles for transmitting new, have been of no service to Premier Drury. His message that the armistice was signed on November 11, 1918 probably came by a courier who swam over with it. We figure that he is due to learn of the Treaty of Versailles several months hence. He is probably awaiting that news before quitting the fishing game definitely.

The attitude the government of Ontario has maintained in connection with the fish business has been most discouraging to the legitimate trade. Individual producers along the Great Lakes have found it well nigh impossible to compete with the government in the

home market and not infrequently government-produced supplies have been exported to the United States to glut that market and bring about lower prices. When it is considerd that the Ontario government mulcts the fishermen of the lakes to the tune of $50,000 for the privilege of catching fish, it is our idea of poor comedy that it should turn around and produce and compete with the same fisherman. In the words of the poet: "This is too mutsh".

PISCATORIAL PARAGRAPHS.

Steam trawlers are not very much in demand just now. The beam trawler Gloucester was put under the hammer by the U. S. Marshall at Gloucester on January 14. It was built in 1919 at a cost of $276,000 and was knocked down for $3,650. Almost down to the Tin Lizzie class.

We are extremely interested to learn that J. J. Cowie, fishery expert in the department at Ottawa, has prepared a pamphlet on the different cures of cod required in various foreign markets. The work is now on the press. We trust it will get the widest distribution possible among cod curers and exporters and that the latter will give heed to the advice and the information it furnishes.

It was gra'ifying this year to note that the Canadian Fisheries Association had succeeded in interesting Rotary Clubs, Kiwanis Clubs and Canadian Clubs to devote a meeting to National Fish Day and secure a speaker on fishery topics. And it is a pleasure, too, that members of the trade arose to the occasion and responded to invitations to speak before these bodies. That's what counts. Never lose an opportunity to tell the public about our industry and about fish.

It is surprising how few of our fish-producing firms subscribe to the Commercial Intelligence Journal, issued each week by the Department of Trade and Commerce. This is a valuable little bulletin and frequently contains information of extreme value to fish exporting houses. It costs only a nominal sum but is worth while having. Furthermore there is a series of articles to be published soon giving a detailed survey of all our foreign markets and what we must do to meet competition. Don't fail to read these and keep them on fyle. It is hoped to convince the department later that these reports are sufficiently vauable to warrant compilation in book form.

A good deal of opposition has developed in Seattle to the proposed amendment to the tariff bill whereby the landing of fish fares at Prince Rupert from American bottoms and destined to American markets would be stopped. There is very little sound reasoning to commend the suggestion. It appears to have emanated from a few over-zealous citizens of Ketchikan who have a notion their town would prosper by such an enactment. Even these individuals would do well to look thoroughly into the matter before giving it such enthusiastic support. The Fishing Vessels Owners' Association of Seatle, who comprise ninety percent of halibut vessel owners operating in the north Pacific, are unalterably opposed to it. They know a thing or two.

Hon. Mr. King's government had a very unpleasant duty to perform when it received a short time ago a delegation of M. P.'s. from the Maritime Provinces demanding that the Intercolonial Railway be taken from the control of the Canadian National Railways and placed under a separate management at Moncton, N.B., as was the case prior to a few years ago. The delegation strongly insisted that the Intercolonial should not be set up as a unit of the national system because it was not primarily a commercial proposition but one of the conditions which brought the Maritimes into confederation. To say the least the Maritimes have not prospered most as a result of confederation and it would not appear a wise policy to unnecessarily cause the people there to dwell upon that fact.

Mayor Wheeler of Gloucester (Mass.) finds himself in serious trouble. In the first place Mayor Wheeler made some unguarded and uncalled for remarks about the quality of fish passed on to the consumer by Gloucester fish distributors and then he is credited with accusing the Gloucester race committee of fraud in connection with the fitting of the Elsie for the international race. In consequence the committee has engaged Hon. Fred. H. Tarr to bring action against the chief magistrate. Mr. Tarr states that the committee, in fitting the "Elsie" for the race, and in the conduct of the race itseelf, was absolutely clean and honorable. There was no violation of the terms of the deed of gift of the cup in letter or in spirit and that the committee felt that the mayor, in saying as he had done and repeated, that the committee had acted dishonorably in fitting the "Elsie" for the race, and acted in violation of the terms of the deed of gift; had borrowed a main-boom yards longer than the "Elsie" carried during the season, and had borrowed larger sails from other vessels; in insinuating that the committee had acted secretly and fraudulently, and saying that he (the mayor) proposed to expose the fraud; was guilty of a malicious lie."

OUR TORONTO OFFICE MOVED.

Our readers and advertisers will please take note that the Toronto office of the Industrial and Educational Press has been moved from 1402 C. P. R. building to Aladdin Building, 208 King Street west. The telephone number remains the same. The tremendous increase in our volume of business has made absolutely necessary this change to larger quarters.

DIDN'T KNOW.

Vicar (at village concert) — Miss Jones will sing again —"I cannot Tell You Why."—Edinburgh Scotsman.

National Fish Day Went Big

From one coast to the other fish sales were exceedingly large. — The day in many centres.

Reports from all parts of the country indicate that National Fish Day this year was an extremely successful event, and equal to, if not surpassing, the achievement of other years. From Vancouver on the Pacific coast to Sydney, N.S., the day was properly observed and the various means employed to attract the attention of the public to Canada's great sea food resources and the value of fish as a food, were most effective. Although it is impossible to state what the aggregate consumption was for the day it is estimated that it was not far from half a million pounds. Retailers in Montreal declared business was heavier than ever before, and similar reports coming from centres all over the country, show universal prosperity.

While the head office of the Canadian Fisheries Association did a great deal to advertise the day and secured the active co-operation of the Publicity Division of the Fisheries Department at Ottawa, the actual advertising and boosting was left to the different branches. It is gratifying indeed that all the branches got enthusiastically behind the movement and it is trusted that the brilliant idea of J. A. Paulhus in founding the National Fish Day will never lack support and that the day will be an institution for all time.

The two great centres of activity were Montreal and Vancouver where the branches launched wholeheartedly into the scheme and spent considerable money in boosting and advertising. Both these centres supplied posters, stickers and literature to other centres and contributed materially to make the day outside their own respective spheres, a success. The whole of British Columbia was splendidly organized.

Montreal Celebration.

The Montreal members of the C. F. A. were highly elated with the success achieved in the metropolis. They had planned a banquet in the evening at the Windsor Hotel and had expected Hon. E. Lapointe, the new minister of marine and fisheries, to be the guest of honor. The latter was unable to attend, however. In view of the condition of distress among the poor of Montreal it was decided to dispense with the banquet and donate 10,000 pounds of fish for distribution among the poor. This worthy idea was carried into execution and Mr. Little of the "Montreal Star" very kindly gave his assistance to see that the food was placed in the hands of institutions qualified to properly distribute it. The whole ten thousand pounds were disposed of the day preceding National Fish Day and many additional calls were received which, unfortunately, could not be attended to. The charitable idea was highly commended by social workers and others in Montreal and the "Montreal Star" expressed gratitude that the association had taken such a step.

An offer was made by some Ontario fishermen to ship ten thousand pounds of Lake Erie herring into Montreal for distribution among the poor at a price far below cost, but the Montreal branch was not in a position to take it up. It was appreciated nevertheless.

The wholesale and retail distributors in Montreal spent considerable money on individual advertising and secured many columns of free space in the local papers which proved of much value. A contract was made with the Montreal Tramways Limited to display National Fish Day posters on two hundred cars for five days preceding the event. Delivery trucks and wagons were conspicuously bedecked. Window posters were widely used and a surplus of literature was sent to St. John, Halifax, Toronto and Winnipeg. Sam Mason, the aggressive proprietor of tha Mount Royal Fish Market, sent his little Shetland pony about the city for several days bearing National Fish Day legends.

After a most successful business day, those prominent in the industry were the guests of J. A. Paulhus, vice-president of the Canadian Fisheries Association, at a dinner at the Club Canadien. Included among his guests were W. A. Found, assistant deputy minister of fisheries at Ottawa, J. J. Cowie, chief statistician and inspector of pickled fish, J. J. Harpell, A. H. Brittain, D. J. Byrne, H. G. Connor, J. T. O'Connor, Joseph Stanford, S. Mason and J. S. Eckman, assistant general manager of the Canadian Fishing Company, Vancouver, Following the dinner there were some short speeches by Mr. Found, Mr. Cowie, Mr. Bryne, Mr. Eckman and Mr. Paulhus. Mr. Cowie took occasion to make some pertinent remarks about the status of our fishing industry and illustrated that there was no occasion to hold up Norway or any other country as a model for us to follow. In a good many respects we were ahead of the others. (Mr. Cowie's remarks will be found in detail elsewhere).

Mr. Byrne touched upon the necessity for a separate department of fisheries at Ottawa and expressed the hope that the next time Mr. Found came to be the guest of Mr. Paulhus or of the association, it would be as deputy minister of fisheries. Mr. Paulhus, responding to a call made upon him for a speech, also made reference to the same point and expressed the conviction that the hour was close at hand when the long-cherished hope of the fish trade would be realized. Mr. Paulhus also briefly referred to the success of National Fish Day. While he felt some pride in the fact he had originated the National Fish Day movement, its success, he said was due to the hearty support the idea received in all branches of the trade.

THE DAY IN VANCOUVER.

The occasion was heartily observed by people on the Pacific coast. Fish was generally used at one of the meals on February 1 and the sales for the day were very large. A feature was a banquet at Hotel Elysium at which the many problems of the industry in British Columbia were discussed.

Conservation of salmon and halibut and the importance of co-operation between the Canadian and United States governments were two of the outstanding points urged by speakers. Fish men to the number of about 150, representing every section of the province, were in attendance. With the exception of the dessert, every item on the long menu card consisted of fish, which proved how extensive is the variety of the products of the North Pacific.

Frank Burke, president of the B. C. Canners' Asso-

ciation presided, and in addition to several interesting addresses by prominent fish men on both sides of the line, several items of entertainment were on the agenda. At the head table with Mr. Burke were the following: Hon. William Sloan, minister of mines and commissioner of fisheries in the provincial government; A. L. Hager, president of the Canadian Fisheries Association; H. B. Bell-Irving, Frank Millerd, Major Motherwell, inspector of fisheries for the Dominion government.) Mayor Tisdall, M. Freeman and C. W. Frazee of the Royal Bank of Canada.

In his opening remarks Mr. Burke, referred to the growing importance of the fish industry. One person in every 26 in Canada today was directly depending on the fishing industry for his living, he said. The salmon industry was closely interwoven with many others. The fish industry was responsible for the curtailing of unemployment, and in the last analysis lessened the burden of the taxpayer. Despite this fact no other industry was taxed as heavily as the salmon industry, and the profits derived from the same were far less than popular belief. This industry should not be allowed to be depleted, and if proper care were taken it would endure for many generations.

In a well assembled address Hon. Mr. Sloan discussed the fisheries from a national as well as a provincial standpoint. He dealt with the objects of "Fish Day", pointing out the value of sea food as a nourishing article of food. the demand for which would steadily increase.

He went into statistics, which proved that British Columbia was the banner fish province of the Dominion, having about one-half of the fisheries wealth of Canada. Dealing with the herring industry, he deplored the fact that the dry salted article was mostly in the hands of Orientals.

Grave Danger Exists.

Referring to the salmon industry, he regretted the fact that the province was in grave danger of having it wholly destroyed, and produced figures to show its depletion. Packs of the big-year periods from 1901 to the present were as follows: 1901, 2,033,765 cases; 1905, 1,684,611 cases; 1909, 1,590,555 cases; 1913, 2,401,488 cases; 1917, 559,702 cases; 1921, 115,621 cases.

"Due to the fact that the Fraser-bred sockeye salmon pass through the territorial waters of the State of Washington, on their return to the Fraser as adults from the sea, and are there caught in vast numbers by United States fishermen, they cannot be afforded adequate protection without legislation on the part of the State of Washington," he said. "It is well known that protection has not been given them, notwithstanding that repeated joint investigations established the fact that protection was essential, and without it that the runs would be disseminated.

"All negotiations between the State and the Dominion failed. Two treaties between Great Britain and the United States, which provided for joint and uniform fishery regulations for a period of years, were drawn and were endorsed by Canada. Owing to opposition in the State of Washington, the United States senate refused to approve of the treaties, notwithstanding the fact that they were approved and signed by the president.

He then referred to the failure of the recent conference to reach an agreement on the subject of the Fraser River salmon. This meeting demonstrated, he said, that the only way to deal with the subject was by treaty.

He declared that the northern salmon fisheries also demanded immediate attention. In this matter, as in others, the provincial government had the power only to petition. The records showed that there had been a material decrease since 1912, that there was a great increase in the area of waters in which fishing is carried on and that a very great increase in the price paid for fish had been recorded. This showed that fewer fish are seeking entrance to the spawning grounds. Too heavy a drain had been made upon the runs.

"The policy adopted in Ottawa in 1912," he said, "has seriously reduced one of our great natural assets. If the government does not change that policy our salmon fisheries will be wholly destroyed." He believed that the new government would take steps of value to



Mason's Pony Campaigns.

the province along this lime.

Mayor Tisdall also deplored the depletion of the salmon industry, declaring that it was time to call a halt. He doubted if the hatcheries were of any great value and believed that a new system of propagation should be devised. He pointed out that many varieties of fish on the Pacific have, as yet, been unexploited and advocated a twelve months' period for canneries in the year, instead of the three-month one, as is now generally the case. In conclusion his worship prophesied a big improvement in industrial conditions during the coming year. At any rate there should be much less unemployment.

Nothing Done.

Al. Hager, expressed the hope that next year "Fish Day" would be in a more favorable season of the year, when a greater variety of fish would be offered the public. Referring to the policy of the Canadian Fisheries Association, he stated that for many years the endeavor had been to separate the department of marine from that of fisheries and also to secure the appointment of a deputy minister of fisheries. Although this had been urged for years nothing definite had been done. The new government, he believed, would not be unsympathetic.

Mr. Hager went exhaustively into the subject of a closed season of three months for halibut, pointing out that huge quantities of spawning fish were being taken from the waters every winter. This he referred to as nothing short of a crime.

In this connection he pointed out that even the owners of fishing vessels who were operating in a small way and dependent upon their catches from year to year were wholly in sympathy with such a measure.

Mr. Freeman, proprietor of severad trade journals, also argued that if the salmon industry was to survive a sufficient supply should be allowed to go to the spawn-

ing grounds. It was a matter of regret he declared, that the United States had not taken the proper steps in this direction. He also advocated that all conferences dealing with this matter should be open.

"Our destinies are interwoven", he said, referring to United States and Canada, "and there should be a co-operation between the two nations to conserve an industry from which mutual advantages would result."

Major Motherwell took issue with one of the previous speakers on the subject of hatcheries, pointing out that with limited funds at the disposal of the officials considerable good had been accomplished. Retaining fish ponds had also done much to conserve the industry. He urged the curtailment of the catch of the sockeye, the most valuable of the salmon species, particularly in the northern waters.

Never before, he declared, had there been such whole-hearted co-operation between the federal and provincial govrnments. He predicted that in the future much would be accomplished through the cultivation of this spirit.

Major Motherwell gave an interesting report from all salmon-producing waters of the province, some of which were encouraging and others the contrary. He deplored the failure of the recent conference between Canada and the United States regarding the conservation of salmon on the Fraser.

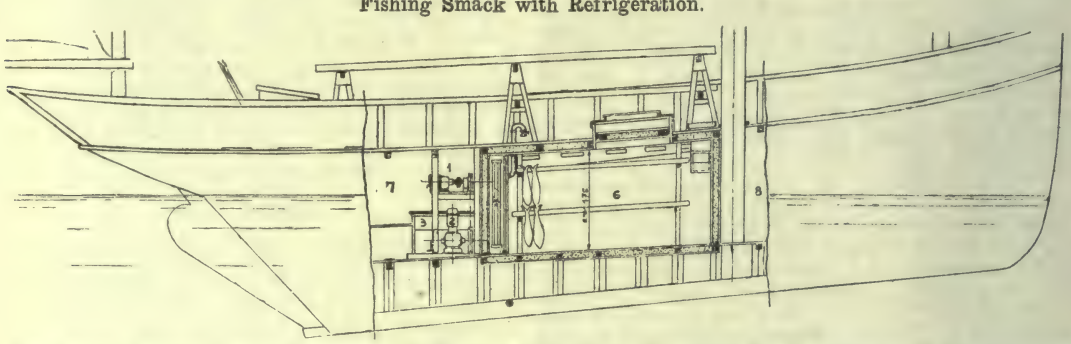
H. B. Bell-Irving proved an interesting story-teller, and in addition urged continued aggressiveness in demands to the government for more favorable legislation in the fishing industries. Ernest LeMessurier, World cartoonist, entertained with appropriate sketches, being assisted by G. Bottger, pianist.

AT PRINCE RUPERT.

Canada's eighth annual Fish Day was fittingly observed and celebrated at the great fish luncheon put on at the St. Regis Cafe on the afternoon of February 1. Two instructive addresses by W E. Williams and Fred Stork, M.P., an appropriate musical program, the bountenus spread of products of the sea from whales to clams, and a large, enthusiastic and representative assembly of citizens made the affair a complete success. Mayor Harry Rochester was the chairman, and seated at the head table alongside him were Fred Stork, M.P., John Dybhavn, James L. Lee, J. W. Nicholls, T. H. Johnson, W. E. Williams and W. J. Cash. Down the two long tables among those present were: Milton Gonzales, Ben F. Self, R. V. G. Lenine, W. F. Roberge, Douglas P. Stork, T. B. Hooper, W. D. Vance, Thomas McClymont, G. A. Woodland, W. C. Orchard, Dan H. McDonald, Theo. Collart, H. L. Landry, E. A. Woods, C. V. Evitt, H. Phillpott, J. H. McMullin, A. Brooksbank, S. H. Hoskins, (Smithers), J. A. Hinfon, Dr. C. A. Eggert, C. H. Orme, S. E. Parker, G. W. Nickerson, Ralph Harrop, Dr. W. T. Kergin, C. C. Mills, Joe Greer, George Kerr, Harry Wright, George Munro, Leo Waugh, F. G. Dawson, W. Viger, Col. S. P. McMordie, D. G. Stewart, J. F. Maguire, D. C. McRae, E. A. Wakefield, David Thomson, W. W. Wright, A. Clapperton, R. Arthur, L. M. Fuller, Jack Woods, E. F. Duby, Rev. Dr. H. R. Grant, W. G. Hughes, A. Akerberg, Hon. A. M. Manson, Frank Davies, John McRae, R. E. Moore, W. Sandison, G. A. Hunter, Thomas McMeekin, J. Currie, F. W. Hart, G. A. Bryant, J. J. Muldoon, Jack Venables, J. P. Dunn (Vancouver), S. King, W. Vaughan Davies, S. K. Campbell, J. E. Davey, H. Lipsett, W. W. Knight, T. Ballinger, George R. Tite, A. Norris and B. O. Oughton.

The need of good transportation and of a separate fisheries department at Ottawa were the principal points dealt upon by the speakers.

Fishing Smack with Refrigeration.



The Société Technique pour l'Industrie, of Paris, has installed a refrigerating plant and an insulated hold in the fishing smack *Minahouët*, of Lorient, which is engaged in the tunny catching industry, one of no little importance in France. The tunny is a most difficult fish to preserve and during the first month of the 1921 season nine-tenths of the French catch had to be thrown overboard. The owners of the *Minahouët* had before them the alternatives of adopting motor propulsion, so as to make frequent home calls; or of refrigerating the fish on board; and they chose the latter.

The refrigerating plant includes a new type of compressor working on ethyl chloride and operated by a small petrol motor. Placed in the rear cabin, the machinery is separated from the cold chamber by an insulated bulkhead, through which is run direct expansion pipes. the ethyl chloride emerging from the evaporator is skilfully transmitted to the condenser, and the working of the system is controlled by two gauges and a dial thermometer indicating the temperature of the cold chamber, which is usually kept at — 5 deg. C. There is automatic lubrication for the compressor.

For insulation of the tiny store cork panels agglomerated with resin are employed to a thickness of 10cm The fish are shot into the hold by a sort of water chute in order to keep them cool, and are then hung up for refrigeration until the boat reaches land.

The system has been found to work fairly satisfactorily, though some improvements are to be made during the winter. In August fish was preserved in sound condition for more than a week and fetched a good price ashore when other cargoes of tunny were in a medium to bad state. The experiment seems to open up great possivilities in the fish smack industry generally.

In the accompanying drawing, the figures indicate:— 1, compressor; 2, motor; 3, condenser; 4, evaporator; 5, fan; 6, cold chamber; 7, rear cabin, 8, fore cabin.

Coker Says Newfoundland Lost Millions

Thinks exporters suffer loss of $2 per quintal. — Views on fishery policy of the Ancient Colony.

BY COLES McKAY

Sir Richard Squires, Prime Minister of Newfoundland, in a public statement recently, declared that the results of the fishing season of 1921 had on the whole been far from discouraging, and expressed the view that the worst of the business depression had been passed and that the outlook for the future gave grounds for optimism. Predictions made last spring that the merchants and fishermen of the Ancient Colony would greatly restrict their operations because the prospect was that prices had been very low had not been fulfilled; on the contrary, both merchants and fishermen had actively entered into the prosecution of the industry and the fish catch had been rapidly absorbed by the fish merchants of St. John's and the outports and speedily shipped to foreign markets, Sir Richard said. Exports of fish during October and November had been the greatest in the history of the Dominion; very little fish remained unsold in the hand's of the fishermen, and a larger proportion of the catch had been shipped to foreign markets at the beginning of December than in any previous year at the same date for upwards of a quarter of a century.

The Newfoundland Government early in 1921 secured from the House of Assembly authority to borrow $500,000, and to make advances to merchants and fishermen to enable them to obtain supplies for the fisheries. Up to the present the Government has not given out definite information as to the amounts advanced to merchants and fishermen under the provisions of the Fisheries Supplies act; but the Prime Minister has stated that in various cases where credits were made available to merchants and others no demand was made upon the Fisheries Supplies Account. According to Sir. Richard, the action of the government in making the credits available to purchase supplies had the effect of restoring confidence, and bankers who in the early spring were wary of making loans came forward with the major portion of the loans necessary to carry on the industry.

Of the effects of the Government's enabling measure Hon. W. F. Coaker, Minister of Fisheries, said recently: "The spring conditions were very severe, chiefly because of the inability of suppliers everywhere to advance supplies or open accounts. To enable those unable otherwise to secure supplies to prosecute the codfishery, half a million dollars was placed at the disposal of the District Representatives, which was available in the shape of guaranteed assistance. All who desired secured supplies and more men engaged in the fisheries than had been employed therein for twenty years or more."

According to the Opposition, the Government in making allotments on Fishery Supplies account have not been indifferent to considerations of party politics, and there are suggestions that a goodly proportion of the advances will continue indefinitely as a charge upon the public treasury, instead of being paid back. But pending a full statement as to the disposition of the account, the value of conjecture of this character is problematical.

Loss of Five and Half Millions

While the Government reports that the total catch of the Newfoundland fishermen was an average one, the Minister of Fisheries observes that the "shore fishery catch was the smallest for a quarter of a century, and thousands of fishermen did not earn sufficient to provide for present requirements." According to Mr. Coaker one of the worst features of the year was the big decrease in the price of fish as paid to the fishermen. Shore fish, talqual, declined from $11.00 in the fall of 1920 to an average of $6.50 last fall, or a falling off of $4.50 on 800,000 quintals of shore fish Labrador values, Mr. Coaker adds, declined locally from an average of $8.50 in the fall of 1920 to an average of $4.50 last fall, or a loss of $4.00 per quintal on about 450,000 quintals. Thus the Minister figures that the Newfoundland fishermen lost nearly 15½ million dollars through the drop in prices which is perhaps a rather distributing method of bookkeeping.

Mr. Coaker argues that the abolition of the Fish Exporting Regulations last January was a "great blunder." and also contends that the failure to ratify the agreement he made with certain firms in Portugal to handle the portion of the 1921 output required by that country was another blunder. Apparently the Export Regulations, which obliged the shipper to show that he would receive a certain minimum price before he was allowed an export licence, worked well enough during the period of war-inflated prices; but the exporters wanted and obtained a free hand when prices began to fall, and the exchange situation limited the purchasing power of the European markets. As for the Portuguese agreement the exporters claimed that it would establish a monopoly of the fish trade with Portugal, controlled by certain firms in that country and the Minister of Fisheries, who is also the controlling factor in the Union Export Company; and owing to their opposition, the Government would not ratify the agreement. But Mr. Coaker now maintains that "the exporters are being taught a lesson and are reaping what they sowed last January when they lifted the Export Regulations." He adds:" There was not enough fish caught in Newfoundland in 1921 by 250,000 quintals to supply the market properly, and had simple horse sense been exercised by exporters in October and November, prices abroad would have stiffened and been maintained until next year's new fish was ready. But they foolishly rushed a six months' supply into the markets in a few weeks, leaving stocks in this country extremely small, while Portugal, Spain and Italy have been swamped with supplies on consignment, that should now be in our splendid fish-keeping stores."

May Lose $2 per Quintal

Mr. Coaker thinks that exporters will lose $2 per quintal on their consignments rushed to Europe, and argues that if the price-fixing Exportation Board

French Sardine Pack for 1921

Reasons for very unsatisfactory results of season's operations. — An interesting analysis.

By C. McKAY.

In France the sardine fishing this season has had mediocre results.

The packers did not encourage any special enterprise on the part of the fisherman. They had large stocks on hand from last season, and they were finding it difficult selling them. They had to face the competitino of American packers, anxious to liquidate their stocks; and they found their market restricted by the fact that the distributers were indisposed to liquidate prices. While they were selling sardines at from 1 franc 40 centimes to 1 franc 60 centimes a box, retailers were charging the public 3 to 4 francs a box. It apppears, however, that the retailer was not wholly to blame. The distributing agencies were evidently not all they should be; the product passed through too many hands. And as "La Pêche Maritime" of Paris observes: "Le résultat d'un trop grand nombre d'intermédiaires est déplorable." The public does not buy because the retail price is excessive, and the packer cannot sell even at a low price because the product does not move. It is a vicious circle by which all the world suffers and from which it is necessary to sortie, says the principal fisheries journal of France.

Nobody in particular seems to be to blame for this condi'ion. It is not a question of the honesty or even the completency of any of the intermediairies; it is mainly the result of the inadequate and inefficient marketing facilities; and it is not a condition peculiar to the fish business in France or other countries. In Canada and the United States, where we hear frequent boasts of the efficiency of the organization of business, the farmers, fruit growers and other primary producers are continually complaining of the disparity between the prices they receive for their products and the prices paid by the consumer. And even in the manufacturing industries where organization is of a higher order than is the case with the extractive industries, there is a big spread between costs of production and consumer's prices:. Government statistics embracing the manufacturing industries of Canada as a whole show that a manufactured product valued at $100 represents $50 worth of raw material, and $15 to $19 of wages and salaries paid for labor involved in the manufacturing process. If, as appears to be the case, the government figures as to the value of the product represent the price received by the manufacturer, before the consumer receives the product he has to pay transportation charges and the expenses and profits of wholesaler and retailer. But even so the spread in the manufacturing industries is small compared with this prevailing in some branches of the fishing or agricultural industry.

According to La Pêche Maritime, the French pack of sardines this year has been small. Packers were only able to handle small quantities, and in some cases only opened their factories for limited periods in order to give some employment to the fishermen and others. In some districts the packers were only willing to offer 30 francs per 1,000 fish (normal value $6.00, present about $2.60) while the fishermen protested that they needed a price of 60 francs per 1,000 at least, owing to high cost of boats, nets and roque used as toll bait. Various conferences under the auspices of the Fishery Department were held, but there was no general agreement, owing largely to the fact that in some cases packers who had disposed of their last year's stocks and were anxious to keep their factories in operation were obliged by the short catches in their districts to pay what the fishermen asked.

The packers in some parts then offered 110 francs (normal value $22.00) per 100 kilos (220½ lbs). Having always sold sardines by count the fisherman made vigorous opposition to the idea of selling by weight; but presently they were demanding 120 francs per 100 kilos. In some ports a compromise of these figures was effected.

All these circumstances, however, precluded the putting up of a pack of any considerable importance.

In order that the sardine fishermen might make a decent living, they were advised to put their catches in a fresh condition upon the markets of the interior cities. But in most cases there was no organization for handling fresh sardines. The transport of sardines in ice or refrigeration gives indifferent results, and though officialdom has designed special isothermic containers to expedite the movement of fresh sardines to the interior their employment as yet does not appear to be commercially practical. Something, however, is hoped from efforts to interest fishermen in devoloping a market for sardines slightly salted or treated with spiced pickle after the German and Danish methods.

(continued from previous page)

had been functioning the Exporters instead of being dependent on the consignees would have held the upper hand, because, he says, "the markets have been more favorable to us than at any time during the past twenty-five years."

However that may be it is interesting to note that Mr. A. B. Morine, who has been the principal critic of Mr. Coaker's policies, has recently been advocating an alternative policy which involves some regulation on the export of fish. Mr. Morine has come to the conclusion that co-operation is necessary to market fish abroad with reasonable success, but he wants the co-operation to be of a voluntary kind, with the control resting wholly in the hands of the merchants and fishermen. The government, he thinks, should confine its efforts to encouraging the promotion of voluntary co-operation, and perhaps the supplying of information upon which the co-operative agencies might base their export policies. He opposes Mr. Coaker's plan of a Government Board with power to fix prices and regulate the flow of exports, because it logically leads to nationalization-- a Government Board purchasing at home and selling abroad and falling back on the taxpayers if its transactions did not turn out profitably. Mr. Morine, however, agrees with Mr. Coaker that competitive selling abroad by consignment is not calculated to secure the best results, though he holds that Newfoundland cannot afford to abandon altogether the practice of shipping fish on consignment, as to withhold cargoes until contracts to sell at a fixed price have been made may give foreign competitors an advantage in the markets.

Interesting Mackerel Observations

Discoveries and opinions of European authorities important in view of our mackerel controversy.

Some years ago Dr. A. X. Cligny, Director of the Biological Station at Boulogne-sur-Mer, from time to time secured very important information upon the vexed question of migration of the mackerel, and especially their places of resort during the winter. His first observations were published in the "Annales de la Station Agricole Boulogne" Vol. 1., published under the Ministère de l'Agriculture, and he has continued to add to our information for fifteen or sixteen years.

Some of the facts which Dr. Cligny has published are not as well known as they should be but he has always admitted that scientific knowledge, in his opinion, is very far from complete. The same ideas have prevailed in Europe as all along our own shores respecting the movements of the mackerel, but Professor Garstang (of the University of Leeds) showed that there were local races of mackerel which appeared not to intermingle.

At the International Congress at Dieppe in 1898 Dr. Garstang strongly opposed the opinion of Chief Inspector W. Spotswood Green that American and European schools of mackerel may cross over the Atlantic and intermingle. Dr. Garstang said that his examination of a large number of mackerel around the British coasts showed that Irish mackerel keep to themselves, and were quite separate from the mackerel occurring in the English Channel and in the North Sea. He even, at that early date, asserted that the winter resorts of all these mackerel would probably be found off the southwest of the British Isles, in probably 50 to 100 fathoms. He did not combat the idea which has prevailed that, in winter, mackerel altogether disappear from the coastal waters.

The well known authority, Dr. Allen, of Plymouth, called attention to the opinion expressed by old British authorities including Couch, M. Dunn, Francis Day, and others, that mackerel in small quantities were often taken during January and February in the western portion of the English Channel; but no regular fishery had ever been carried on before the middle or end of March.

The most important addition to our knowledge of the mackerel was made exactly twenty-one years ago, when a Boulogne steamer entered that port with a great quantity of mackerel caught in mid-winter off the southwest of Plymouth. The French fishery officials did not at first believe that these mackerel had been caught at the time or in the place claimed by the skipper and his crew, and they had a suspicion that the fish had been bought in England and had been captured probably some months before and preserved in cold storage. This steamer, having made the discovery as to where the mackerel were in winter, continued to make voyages back to the same ground with the same profitable result, and the fishing population began to realize that the schools of fish were there in abundance. They were found so crowded together that often 10,000 to 15,000 mackerel were taken in a single haul of the net in a couple of hours. They appear in winter to be so crowded, and in such compact bodies of fish that two vessels fishing within a short distance of each other may have entirely different luck. One may make a big catch, and the other may take nothing.

It has been found that every large school seems to be constant in position, and some schools have been fished for two months without having moved very much from their original location, but towards the beginning of spring the schools spread out and scatter, and begin to move towards their respective shores.

Dr. Cligny states that they do not all occur at the same depth in the sea. The French fishermen found south of Start Point, in Devonshire, mackerel at forty fathoms, and they discovered other schools within reach of Dieppe in about fifteen fathoms depth, and mackerel have been also found in winter off the Boulogne shore in ten to twelve fathoms.

It is difficult to find a cause for this herding of the fish together in a steady location. They are not found to be blind as was formerly believed to be the case, but are healthy, well-fed and in perfect condition.

The fishermen found that the schools rose from the bottom during the night, and doubtless dispersed somewhat for the purpose of feeding, but night after night they re-assembled in the same locality near the bottom. Observations are not complete, but it will be probably found that the mackerel schools along the south English Coast all pass the winter not very far away at the bottom of the Channel and except for the period in spring and summer when they are at the surface, and fishing for them is in full operation, they have this habit of retiring to deeper water.

Dr. Cligny thought the same applied to the North Sea and to the Irish schools of mackerel. He was even prepared to express the opinion that the same may apply to other migrating fish in the sea. Their migrations are not very extensive, and their winter resorts are established and resorted to winter after winter.

There seems to be no doubt that the French observations prove that mackerel do not descend to profound depths in the open ocean, as many authorities have thought, nor do they always occur in areas where there is a stated or uniform temperature. While temperature does undoubtedly affect fishes in the sea, Dr. Cligny's conclusion was that theories based purely or merely on conditions of temperature were undoubtedly erroneous. He discredited the policy of adopting the simple theory which so long prevailed that the currents and movements of fish are so greatly influenced merely by temperature. The conditions which influence mackerel in their movements appeared to be in his opinion far more complex.

PROGRAMME OF FISHERIES CONGRESS

The International Fisheries Congress which last met in Ostend, Belgium, in 1913, will hold another reunion this year. It is reported that the government of Spain, recognizing the importance of the work of the Congress has made it a grant of 100,000 pesetas. The provisional programme on which the secretary-general Alfredo Saralegui is now working includes papers and discussions on the following subjects:

1. Oceanography, biology and meteorology.
2. Technique of fisheries sea, and river.
3. Pisciculture, oyster culture, and mussel culture.
4. Industrial exploitation of products of fisheries.
5. Social questions surrounding lives of fishermen.
6. Statistics and legislation.

Our Fisheries and Norway's Compared

Fishery expert declares we have nothing to learn from Scandinavians but caution.

J. J. Cowie, fishery expert in the department at Ottawa, made some very pertinent and interesting remarks at the National Fish Day banquet in Montreal upon the relative status of the Canadian fishing industry. His speech follows:

National Fish Day, the anniversary of which we are celebrating to-night, is designed to promote the sale and consumption of fish; and rightly so. Much of the literature printed in connection with this laudable object, lays stress on the fact that our fisheries production is not what it should or could be either in volume or value; again rightly so.

While there is, undoubtedly, great room for expansion, there is reason to believe that many non-thinking people and those who do not look closely at statistics imagine that our fisheries are in a fearfully undeveloped state.

We are frequently asked, for example, to look at what has been done to foster fisheries development in Norway and what has been accomplished thereby. To tell you the truth, I am rather tired of having Norway thus held up to us as a pattern in this respect. Just glance with me for a moment at the facts concerning the output of Norway's fisheries in comparison with that of our own, and I think you will agree that we really have just cause for a very great amount of pride in the position our production and value have reached.

Norway has two great fisheries which contribute about four-fifths to the total output. These are the cod and herring fisheries. Both are great because of the fact that the fish come inside and amongst the "Skjaergaard", a protecting belt of skerries or islands lying along the coast—in great bodies and make inshore boat fishing their chief fishery.

They have a mackerel fishery about equal to ours. They also have a fishery for saith or coalfish, from which stock fish is made. This is a fish somewhat like our pollock, but much inferior to it. The volume of the saith fishery is about equal to our haddock fishery.

They have no bank fishing fleet comparable to our Lunenburg fleet. Their fishery is almost entirely an inshore one, except for the vessels employed in taking fall mackerel by hooks and lines in the North Sea. There has arisen, in comparatively recent years, a fishery for cod, ling, and halibut, on some of the offshore banks, but its output is insignificant compared with the inshore boat fisheries. Further, they have nothing to compare with our Pacific salmon fishery or our lobster and smelt fisheries of the Atlantic.

The moderating effect of the Gulf stream enables Norwegian fishermen to fish all the year round. As a matter of fact their cod fishery, which is practically confined to the Lofoden Islands and Finmarken in the far north, begins in the middle of January and ends in April.

The operations of the great majority of our Atlantic fishermen on the other hand, are limited through climatic conditions. On some parts of our Labrador Coast, the fishing season is of not more than three months duration, while on most other parts of our Atlantic Coast, it is limited to seven or eight months. Only on parts of the south and west coast of Nova Scotia and in the Bay of Fundy, do some fishermen operate all the year round.

Keeping this difference in the length of the season in mind, a few figures comparing the production and value of the fisheries of Norway and Canada in a pre-war year and a war year, will suffice to enable you to realize the fallacy of lauding Norway's achievements and belittling our own.

I have taken 1917 as the war year, as I could not lay hands on a complete Norwegian report of a later date before leaving home. The war year taken may be looked upon by some as a rather unfair one for comparative purposes, in view of the fishing and marketing difficulties Norway experienced in that year as a result of submarine activities. In any case, the comparison shows how the fishing industry in Canada is quite capable of taking advantage of an opportunity for advancement when it presents itself.

In 1913, there were landed in Norway 582,768 tons of all kinds of fish by 99,659 fishermen. Its value, in first hands, amounted to $13,442,000. In the same year, there were landed in Canada in a much shorter season, remember, 449,253 tons by 71,776 fishermen. The first hand value amounted to $25,120,000.

In 1917, 69,888 fishermen in Norway produced 529,746 tons of all kinds valued at $33,873,000; in the same year 68,516 fishermen in Canada produced 460,974 tons valued at $38,497,000. You will notice that Norway's output was rather greater in both years, but the value was much less; largely because about two-thirds of the output consisted of herring, a comparatively cheap fish, the bulk of which went to the oil works for conversion into oil and fertilizer.

The rise in value from the prewar to the war year was relatively greater in Norway than in Canada, owing to the competition between Germany, which strove to procure Norway's output in the latter year, and Great Britain, which endeavoured to buy it up and keep it from Germany.

In 1913, the production of cod in Norway was 224,791 tons, and in 1917, 102,225 tons, while in the former year Canada produced 83,229 tons and in the latter year 110,300 tons, or 5,000 tons of codfish more than Norway, the great cod producing country.

Last year and the year before the fishing industry in Canada passed through very trying times, with values of fish products decreasing and the cost of fishing equipment and the means of production generally remaining high. There is much encouragement, however, in knowing that we have not fallen back so far, nor had such a hard experience, bad as it was, as some other countries. For instance, the value of our fisheries in the past year will probably be $20,000,000 less than the value in our best war year, but note this, the value of the Norwegian fisheries for 1921 will be almost $27,000,000 less than that of their best war year. Besides, the difficulties connected with carrying on the industry in Norway last year were so great as to necessitate very substantial subsidizing by the Government.

Our really laudable achievements must be considered only as an incentive to greater advancement. Most of you here are concerned mainly with the development of a home market for fresh fish. There is room for great expansion along this line, notwithstanding our comparatively small and widely scattered population, and I know that the men, who thus far have built up our fresh fish trade, are capable of pushing it much farther. It is growing and will surely continue to grow, but we must look for a steady natural growth rather than for anything phenomenal.

Possibilities Extensive.

Granted the right quality, the export trade, in my opinion, can be greatly expanded. It is true that such fish as Pacific salmon of certain varieties and lobsters are at present being exploited, pretty nearly, if not quite, to their limit, but we have the great never-failing prolific cod, which, notwithstanding the extent to which it is now taken, can give us a vastly more valuable production, provided it is properly and carefully handled in the curing. Here let me say that if the Norwegian can beat you in any department of the business, it is in the extreme care he exercises in handling fish and in the preparing and curing of it for market. This is a lesson that might be learned from your Norwegian competitor with the utmost profit and advantage.

We have a bank fishery of which we are justly proud, but it may be a surprise to even some of you who are engaged in the fishing business to learn that our takings of cod from the Grand banks, which, comparatively speaking, are at our front door, amount to not more than from 500,000 to 600,000 cwts., that is, unsalted; while France sends vessels all the way across the Atlantic and actually takes from these same banks from 600,000 to 700,000 cwts. of cod annually.

We hear a lot these days about the need for educating fishermen in the use of more modern means of capture. Is there not a little too much harping on this string? I think you will find that wherever there is on our coast a really encouraging demand for fish, the most effective means of capture are put in use.

We have modern steam trawlers; we have hook and line trawlers of all sizes; we have drift nets and seine nets in use for mackerel, and there is no more effective means of catching salmon, lobsters, or smelts, than those at present used on our coasts.

There is one kind of outfit that has, however, not yet been fully tried in Canada, that is gill-net for cod. There is much doubt, however, as to whether such nets would be effective in Canadian waters, for this reason, that in the United States, Norway, and the north of Scotland, where they are now in use, it has been found that they are effective only in mid-winter or early spring when cod are heavy with spawn. At that time of the year, it would be next to impossible to use it on our coast, except on a limited stretch and where the bottom might be found suitable.

I wish to add one word more to these rambling observations by way of advice; it is this—do not worry about the producing end of our business. Concentrate on enlarging your present outlets and opening up new ones. Give constant and close attention to the quality of the fish you distribute for consumption, and just as soon as an increased demand manifests itself with a prospect of a reasonably equivalent compensation, you will find the producers ever ready to more than match it with supplies.

WEALTH OF FISHERY RESOURCES BASED UPON FISH CONSUMPTION.

If we Eat no Fish our Immense Natural Property returns no dividend. — The Industry in the hands of the consumer.

Many, many people do not realize what tremendous possibilities there are in our prolific fisheries. They are limitless sources of riches. Each crop of fish is newly-created wealth, just as substantial as that represented in grain and wheat, in cattle and similar food products. But unlike the commodities with which it has been compared, fish does not require any guiding care on the part of man. The perennial crops develop naturally, leaving to us the mere labor of reaping. The natural potential resources of our young country in this regard outstrip those of any other nation. Still we are not at the top as a fish-producing nation. We do not even take advantage of seafood here at home for our annual consumption is but twenty-one pounds per head.

When the statement is made that each crop of fish is newly found wealth, there are well-defined limitations. The value of a fish cargo is measured by the amount of money it will bring — not by the amount of nourishment it affords. The law of supply and demand fixes the gold value, which increases as the supply diminishes and falls to zero as the supply increases. Not infrequently boats laden with fresh fish come into eastern ports from the North Atlantic Banks and fail to find a market for their catch. Not a great many months ago a steam trawler failed to dispose of a cargo of 250,000 pounds at any price. So fish is new wealth only when it may be marketed.

The extent of the wealth we may acquire from the sea rests then entirely upon the demand, so the development of the industry does not rest with the fisherman and the persistency and vigor with which he prosecutes his calling. It lies entirely with the consuming public in this country and elsewhere. It is economic folly for the fisherman to take a single fish above the amount for which he can find a market. Any additional labor is wasted.

It is estimated that our waters are sufficiently fertile to supply the markets of the world with fish. Last year we caught close to a billion pounds, while the neighboring republic doubled that amount. From the great banks of the North Atlantic — literally at our door — our American cousins take from two to three times the quantity of fish we do. Is that not surprising?

Fish is undoubtedly becoming more popular. Statistics prove it. But it is necessary for the speedy advancement of the industry that it be used to a still greater extent. Canada consumes about fifty per cent (in value) of the fish she produces. It is the fishermen's most important market and their supply is controlled largely by the extent of this market's demand.

It is not necessary to dilate upon the individual economic and other advantages of a diet liberally provided with fish. This fact is pretty generally appreciated. One item of the greatest importance, however, is to make use of our unusual variety of seafoods. Our waters yield no less than six hundred edible species but not more than twenty are popular on the Canadian market. This means a national economic loss, because the fisherman's catch is rendered only sixty to seventy per cent marketable. The balance must be thrown back into the sea.

Try any fish once. It would not be placed on the market if it were not a good, substantial and wholesome fare.

Are Fish Really Cold-Blooded?

Interesting observations upon the temperature of various dwellers of the deep.

By Professor PRINCE, Dominion Commissioner of Fisheries, Ottawa.

The great historian, Professor J. A. Froude, once wrote that he disliked fish because they were cold and slimy. Fish, it is true, are cold, but as a matter of fact, their blood has a certain amount of warmth in it. All fish, so long as they are alive, possess some amount of heat, and in certain cases they have quite a perceptible warm temperature naturally. Little is known about this heat in the body of fishes, although scientific men have made occasional observations upon it for a good many years. The famous Dr. John Davy brother of Sir Humphry Davy, the eminent chemist, described some tests (over eighty years ago) which he had made with the thermometer upon living fish, and he said that the common opinion, that fish were cold-blooded, was not by any means correct. The subject has considerable practical importance for this "animal heat" in fishes, must be taken into account when fish are placed in a freezing apparatus while they still retain vitality and some muscular irritability. Fish vary in this feature. Certain species have life and irritability in their tissues for a much longer period than others. Of course, every living or non-living body possesses a certain amount of heat, unless its temperature be what is called absolute zero, that is when a body is frozen below the freezing point of water to nearly 500 deg. Fahrenheit. Absolute zero, when every trace of heat is extracted, is really 461 deg. below zero, or 493 deg. below the freezing point of water, on the Fahrenheit scale. Many analysts explain cases of alleged revival of fish, after freezing, to the presence of this "animal heat." It is recorded that one experimenter kept some fish in blocks of ice at 5 deg. F. and gradually thawed them out apparently unhurt. "Every part of the body, all of the living substance of these fish", said Dr. Starr Jordan, "was frozen, for specimens at this temperature could be broken up and founded up into fine ice powder." It has been asserted by some scientists that the temperature inside the body of a fish agrees very closely with that of the surrounding water, but that if the fish are made to move vigourously and the rate of respiration in this way is greatly increased, the temperature rises a little. This may be due to the quick heavy breathing by the fish of the air dissolved in water. Actual tests have shown that the river eel has a temperature of 52.25 deg. F. when the water is 50.13 deg. F., and that salmon in quiet water have a temperature of 59 deg. F. when the water is 56 deg. F. In this last case, the temperature named is that of the body-cavity, but the temperature of the heart is one degree lower, viz., 58 deg. F. When the water rises 2 deg. higher, (i.e. 58 deg. F.) the inside temperature of the fish, near the liver, is 60 deg. F.; but young salmon in the grilse stage are slightly colder 59.5 deg. F.

Have More Blood Than Others.

Strong swimming, active fish in the sea, such as the tuna, bonito, and albacore, which have abundant blood, more than most other fishes, so that the flesh has a very red appearance, all possess a higher temperature than common species. Dr. Gunther, of the British Museum, said of these fish: "Their energy of muscular action causes the temperature of their blood to be several degrees higher than any other fishes.' A bonito of fifteen pounds weight, examined immediately after capture, was found to have a temperature of 99 deg. F. when the thermometer was inserted in a cut in the thick muscles of the back. The heart was seven degrees colder, possibly owing to the fish's having ascended from deep colder water, and it must be remembered that the ventral body wall is very thin where the heart is located. The surface water of the sea showed, according to the record, a temperature of 80.5 deg. F. A closely related fish, the Mediterranean pelamys or frigate mackerel (Auxis), about three feet long, was found to have a temperature of 75 deg. F. when tested with a thermometer inserted in the deep muscles of the back, while the abdominal cavity was 73 deg., and the sea's surface was 68 deg. F. The inside temperature of these fish thus ranged from 13 deg. to nearly 20 deg. warmer than the surrounding water in which they were living. The large swift-swimming dolphin contrasts with the tuna and bonito, and is much colder, viz. 74 deg. F. (in the deep muscles of the back), but the sea was also 71.25 deg. F. Experiments of the same kind with sharks show interesting results. They have a blood-supply less rich and red, but their temperature is 2 deg. to 4 deg. higher than the water in which they live. Specimens of the large carcharodon, the ferocious, powerful, man-eating species, were found to have a temperature of 82.5 deg. F. when the surface of the sea was 80.5 deg. F., while in another case the thermometer showed 81 deg. F. when the sea was 79.75 deg. F., and a third was found to have a temperature of 77 deg. F., in the tail-muscles, when the sea was 74.75 deg. F. A case is on record of a shark, which showed a lower temperature than the surrounding water, viz. 77 deg. F. when the surface of the sea was 81 deg. F., but it was possibly a specimen which had just ascended from cold water at a great depth just before capture, as often happens with fish, and the body had not yet risen in temperature in accordance with the warmer surface surroundings.

Exertion Jumps Temperature.

Professor St. Fibich of Cracow, Galicia, has reported the important observation that muscular exertion in fishes not only raises their temperature, but raises it to a much greater degree proportionately than animals with warm blood. While the rise in temperature in man is only 1 deg. to 2 deg., it is in fishes 2.5 deg. to 3.6 deg. F. It is strange also to learn from this expert that while hunger reduces the body temperature in man and animals with warm blood, it has no effect whatever on fishes. The surrounding water, Dr. Fibich claims, is so cool that the fish are prevented from cooling further — a questionable opinion.

In contrast with the foregoing facts is the discovery that many fishes are able to endure very high temperature without injury. Near the volcanic springs in New Zealand, and in other volcanic regions of the world, small fishes abound in streams which are of a very high temperature. Dr. Starr Jordan described, many years ago, some small minnows or killifish, which he found in the waters of a Yellowstone Park hot spring, of which the temperature was 128 deg. F., and he placed some in a can, and kept them for two days, and although the nights were very cold, yet they were quite lively in spite of the changed conditions. They lost a good deal of vivacity, it was noticed when the water cooled down. Professor A. F. Marion found in certain salt lagoons on the northern coast of France, and in the Mediterranean, that most of the fish inhabiting those inshore waters, especially sea-perches and basses, were immediately affected by a reduced temperature in the water, and when it fell to 44 deg. F. most of them died. He attributed a great loss of fish almost annually to the cold temperature, but he found that many species went into deeper water and thus escaped the ill effects of unusual periods of cold weather during certain seasons of the year.

A. S. BROWN,



Recently Elected President of Lake Erie Fishermen for the Fourth Term.

SHIP "DRY" OR "WET"?

London, January 21. — That the monsters of the deep fight in groups, as well as engage in personal encounters, is testified to by Captain G. Evered Poole, a commissioner in the Gold Coast Survey, who writes the following to his brother concerning an experience during his voyage from England:

"Between Sierra Leone and Sekondi we steamed through, for over an hour, a blood-red sea, and saw hundreds of whales dead or dying on the surface of the water. Some were just able to move slowly along; few, if any, could move quickly. There must have been a sanguinary battle, supposed to have been put up by sword-fish. It was a most appalling sight, and the extent of the bloody expanse must have represented the death of many more whales than were visible."

LETTERS TO THE EDITOR

The opinions expressed are not necessarily those of the Canadian Fisherman, but the views of our readers on current topics are invited.

SAYS SPECIAL LOBSTER SEASON PAID.

Editor Canadian Fisherman.

The story about the failure of the late extra lobster season in Nova Scotia is a fabrication pure and simple. It was concocted with a set purpose in view; and had it been seasoned with a few grains of common sense, it might have been swallowed more easily. I am asking you to give publicity to the facts of the case as they came under my personal observation, and very closely scrutinized at that.

The extension was granted on the strength of a piteous plea from an Anglican rector and a Catholic priest, whose compassion was moved by the destitute condition of their parishioners in West Halifax, supported by petitions from the fishermen in many sections on the South Shore, who were asking leave to toil, for the sake of their families. I seconded the motion of those humane clergymen against the intrigues of some eastern corporations, and we prevailed, having the truth on our side.

Six weeks only were grudgingly allowed by the outgoing government. One fortnight of that time was too stormy for tending traps. To begin with, I determined to get an accurate account of all lobsters caught and shipped to Boston during that period. All consignments from that one inspectoral district in Nova Scotia (comprising less than two hundred miles) came by the Yarmouth boat, with the exception of a few smack fares from along the shore, and I took account of every arrival, both the number of crates, and how the contents weighed out, also nothing the market price at each trip. For absolute certainty I checked up my tally with the customs broker's books. The agreement was complete.

At the end of the six weeks the Boston receipts of those lobster shipments were valued at $320,000; and immense lots were reserved in storage cars on the South Shore for shipment when the market should be firmer. These lots have been filtering into Boston ever since, and the stream is not yet exhausted. Several times the boat brought as many as 150 crates, all of which I counted and appraised. It added fully $150,000 to the above sum, making the total value of live exports $470,000. When the estimated value of the pack, about $200,000, is taken into account, the worth of the whole lobster product for that brief period runs up to the respectable sum of $670,000, which is, according to departmental returns, about half as much as the whole of Nova Scotia gets out of the occupation for the first nine months of last year. If the fall season was a failure, what words can adequately describe that annual catch?

The soft shell bogey may pass with softies and scientis's, not with practical men in the business. Maine and Charlotte County, N.B., were shipping at the same time, and lobsters in their waters shed much later than those in the South Nova Scotia littoral. Hence they are more pulpy in November. Why should a Canadian paper waste its sympathy on the State of Maine fishery because some part of their previous gains went this last fall to Nova Scotia? Moreover how is it that the canneries farther east run through dogdays and no complaint about soft shells is ever heard? Again, if the canners feared a congested market, why did they keep

on packing? The lobster industry is not conscripted,—at least not yet. Lastly, why is the said Charlotte County permitted to fish lobsters nearly seven months in the year, and South Nova Scotia be shortened to three?

M. H. NICKERSON,
Director of Fisheries for N. S.

MR. NICKERSON SETS COURSE FOR THE NEW GOVERNMENT.

M. H. Nickerson of Clark's Harbor, writing to the "Halifax Chronicle", sets forth a comprehensive programme which he would like to see carried out by the new government at Ottawa. His letter follows:

Sir:—I have prepared and submitted to the right quarter the following fishery agenda for the solid phalanx from Nova Scotia and Prince Edward Island to work on during the first session of the new Parliament.

1—Enquiry into the lobster industry in general with a view to securing more suitable regulations for the live export branch of the same, as regards open seasons and means of transport. Future laws hearing on the occupation or the trade to be enacted by parliament, not determined by order-in-council as heretofore.

2—Mackerel scouting during the fall run, or southward migration; the biological board to explore breeding grounds and study movements of the fish when schooling, and to collect all possible data on the subject by using Port Hood as a base with a substation at Souris, P. E. I.

3—Lifting of embargo on purse-seining by Canadians within their own territorial waters, and exemption of fish boats from sales tax on material entering into the construction or equipment of the same.

4—A survey boat (steam or gas, not over thirty tons) to locate with more exactitude feeding and spawning areas of school and ground fish, and to secure for scientific purposes adult species therefrom; the boat to carry ordinary sets of gear for fishing in both kinds by purse-seine, drift net, setline, beam-trawl, handline and flounder-dredge; the use of these implements to serve primarily in training a yearly shift of half a dozen youth or so in different branches of the pursuit; the catches to be sold for the up-keep of the expedition, the surplus, if any, to be paid to the apprentices; such a boat would be a self-sustaining marine college, where first-hand practical technology could be taught by actual touch and sight, and from which future leaders in the occupation could be graduated; It would also be a valuable acquisition for deep-sea research by observation and experiment accurately recorded.

5—Official recognition of the claim put forth by the Maritime Provinces with respect to the deferred fishing bounty accuring from the so-called Halifax Award, with the requisite procedure for guaranteein payment of the same, whenever an equitable system of application and allotment shall be agreed on.

6—Prospecting by the said survey boat for possible scallop beds in the coastal waters, and for areas adapted to experiments in oyster culture.

7—Measures for improving the means of transportation for all fish to be marketed fresh, by forwarding with more despatch shipments by rail from producing points to consuming centres, especially the Canadian interior; and by reducing exorbitant express and freight charges over lines controlled by the Federal Government.

INTERNATIONAL EXPRESS RATES.

Editor Can. Fisherman:—

In reply to yours of the 23rd inst., would say that there was a hearing in New York on Monday, the 23rd, before the Examiner of the Interstate Commerce Commission in connection with the readjustment of the international express rates. Evidence was submitted by the express companies to support their position, but it will likely be a few weeks before a decision is rendered.

Representatives of the fish dealers were present but during the session a recess was proposed by the examiner in order that the express companies and the representatives of the fish dealers could have a chat on the subject of the fish rates. As a result it was promised by the express companies that where the second class rates had been increased from points where large and continuous shipments of fish were made, the express companies would undertake to file special rates which would be substantially the same as the second class rates in effect previous to the 1st of January.

A further conference with the gentlemen representing the fish dealers was held the following day and lists of shipping points were submitted as regards shipments to New York, Boston and Chicago. Further lists will be sent to the express companies in regard to fish to Buffalo. When these are received the express companies will submit lists of rates which they are prepared to make on this class of traffic from Canadian points to United States points.

The matter will have prompt attention by the express companies. In the meantime it is felt that no very great hardship has been imposed on the shippers from the fact that from points where there has been a large and continuous movement heretofore commodity rates have, with a few exceptions perhaps, been in effect, and these commodity rates, you understand, have not been changed. The only change contemplated by the revision of the international rates was in the class rates.

I think I can assure you that the matter will be adjusted in a satisfactory way in a very short time.

W. H. Burr, traffic manager Dominion Express.

FISH PROPAGANDA IN NORWAY.

One might think Norway was the last country in the world to find it necessary to embark on a propaganda to increase the consumption of fish, but it appears that in many places fish is not by any means consumed to the extent it might be. The sea fisheries depend more upon the export trade than on home consumption. The conditions of the foreign markets at present, in particular those for salted herrings, do not allow the fisheries to be carried on in the usual flourishing condition, and one of the means to be taken to help them is the institution of an active campaign to increase the use of fish amongst the Norwegians themselves. Cookery courses, including herring dinners, with demonstrations, will be held in various places throughout the land, especially in the valleys along the south coast, and also in those adjacent to the fjords, and in the northern parts of the country. The work will be mainly in hands of a number of fishery societies, controlled by the Central Department, which has funds for the purpose.

Ontario to Quiet Fish Business

Toronto, January 16. — The Ontario Government has decided to discontinue the fish sales branches of the Game and Fisheries Department, according to a statement by Hon. Harry Mills, the minister. Representations along this line have been made by fishermen for a consideraable period, and in resolving to go out of the fish business the Government has been chiefly actuated by the views that the establishment of this branch was a war measure, intended to encourage people to buy fish at a time when meat was scarce, that it was found difficult to control the supply, and also by the fact that representations were made my fishermen all over the province that the Government was interfering with their sales by underselling them. Under the system which has been in vogue, the government had 14 fishermen under contract fishing Lake Nipigon and Lake Nipissing, the rule of payment being 5¾ cents per pound for the various kinds of fish, except sturgeon, in which case the rate was 11¼ cents on Lake Nipigon and 12½ cents on Lake Nipissing. At the close of the fiscal year ending in October there was a surplus of approximately $54,000, but with outstanding unpaid accounts to take care of, the net profits were over $23,000.

It has been decided to close Lake Nipissing for commercial fishing for three years. No definite arrangement has been come to yet in the other case, as to how Lake Nipigon will be operated, but it is likely to be on a royalty basis, with restriction of the amount of catch per year to probably somethng like 2,000,000 pounds of whitefish, salmon, trout and pickerel, and sturgeon about 40,000 pounds.

A BRIGHT OUTLOOK FOR NEWFOUNDLAND LOBSTERS.

The outlook for the Newfoundland Lobster Fishery the coming season is very bright. At this date last year there was 2,800 cases of the previous year's catch held in all Newfoundland, and about 1,000 cases additional of our 1920 catch in hands of consignees in the United States. At the present time there is a complete reversal of these conditions, and in all Newfoundland today it would be difficult to gather up 50 cases of the 1921 pack. The entire pack was about 8,000 cases.

It will be apparent then that with the growing improvement in exchange and the reduced price of tin, that the prospect for 1922 is particularly good, and that the price of new Lobsters will be the best for many years, and considerably higher than last year. The present price is $21.50 per case.

BAY OF ISLANDS HERRING FISHERY.

St. John, Newfoundland. — Complete returns for the herring fishery of the Bay of Islands during the season, just closed are not yet available, but, according to the Western Star, the catch is estimated at between 35,000 and 40,000 barrels for all kinds. Of this amount about one half were put in the Scotch style. Special efforts have been made by the packers to put up a good quality, and a large percentage of the barrels used during the past season were hooped with iron. The fish have been shipped in good condition.

A problem which is worrying the fishermen is how to make use of the small herring. Quite often nearly half the catch has to be discarded, and few other industries could stand for such a drain on raw material.

HOW "LABRADOR STYLE" ARE MADE.

The following is the method adopted at Iceland in the preparation of "Labrador style" according to the account given by the Norwegian Consul-General at Genoa. As soon as the fish is caught, and whilst it is alive, its throat is cut, so that it bleeds to death.

This is described as most important. As soon as possible after this the fish is gutted and the head removed. The fish is split in the ordinary way, with this difference, that the cutting does not go down to the tail, but stops short about a hand's breadth from it, according to the size of the fish. The tail part thus remains round; about a third of the bone is left at the tail part. The fish is then thoroughly washed (another important item,) and the washed fish are piled with a thick layer of salt between each (salt should not be spared) in piles from one and a-half to two metres high; the first salting is often done at Iceland in great vats. After five or six days the piles are rebuilt, so that the uppermost fish become the lowest in the new pile, and abundant salt is again used. After ten or fourteen days the piles are taken down, the loose salt is shaken off the fish, which are then placed on a board and washed with pure water, a fibre-brush (skurekost) being used. In contrast to the process with ordinary split fish, the black membrane on the nape is left. It is of great importance that the outside or backside of the fish is thoroughly washed, especially under the fins. If there is a reddish appearance on the nape (vingerne) it is again salted and again washed. After washing the fish are piled ready for drying. But they have to be dried only to a small extent. It is difficult to state a time, as it depends on the weather. As a guide, it may be said that with average good weather drying may be done for two periods of six hours each, the fish being piled in the interval; in strong sunshine this would be too much. Then the "Labrador style" is ready for shipping. In conclusion, the Consul-General advises Norwegian curers, if they are thinking of preparing the "style" in Norway for the Italian market, never to forget three things—first, that the fish must be bled immediately they leave the sea; second, never to spare salt; third, to wash the fish thoroughly before and after salting.—By Klipfisk in Fish Trades Gazette.

TRANSPORTATION RATES TOO HIGH FOR CHEAP FISH.

The syndicate of wholesale fish dealers of France have asked the Minister of Public Works to prevail upon the railways to grant special reduced transport rates on various varieties of fish when they are being taken in abundance, comparable with the special rates granted by the French railways on vegetables when they are in season. The syndicate points out that the freight tariffs are disproportionate to the low prices which fish in the season of abundance command in the interior markets. The adoption of a low freight tariff on herrings or sardines during the special season for these fish would, it is claimed, enable the dealers to market surplus catches, which now quite often go to waste, in the interior cities, thus assuring the distribution of more money among the fishermen and assisting in the solution of the high cost of living.

Alarming Falling Off in Labrador Fleet

Upwards of forty small Newfoundland schooners from 30 to 65 tons were lost the past year. This reduces the already small fleet of fishing schooners to such serious proportions that the question of the future prosecution of the Labrador and Straits fishery is a discouraging one to contemplate by all who have an interest in the future welfare of the country. The exact figures we have not at hand, but we do not believe that the entire fleet is more than half of what it was in 1900, and that as many have been lost every season and few have been built, it would seem that the total between 30 and 65 tons to-day would not be much over 500 as against 1,400 to 1,500 in the closing years of the 19th century.

Thirty to forty years ago building and purchasing in Nova Scotia, kept pace pretty well with the yearly losses, but all this has gradually changed, and since, during the past twenty years, there has been every year on an average ten lost to one built each year.

This certainly is an alarming state of affairs, and shows the necessity for some legislative action, in the way of encouragement that would lead to a resumption in vessel building. If the bounties that are now offered, are not sufficient inducement they should be in creased.—Trade Review.

Six This Year.

St. John, Nfld., January 24. — Loss of two Newfoundland schooners was reported here today, bringing the total of vessels lost since January 1 to six.

The schooner Rawlinson went down off Oporto with a cargo of fish, according to news received to-day, while the schooner Asquit, bound for his port with salt, sank in mid-ocean. Crews of both vessels are reported safe.

The casualties to the Newfoundland fleet this winter and last have seriously reduced the tonnage available for carrying fish abroad. During 1921 forty-two Newfoundland vessels were lost.

Bounty to Replace Loss.

St. John's.—The Newfoundland Government has offered to pay a bonus of $30 per ton on vessels of 25 tons and over and up to 50 tons constructed on the Island, and ready for sea by July 1, 1922. Vessels laid down since Oct. 14, 1921 will be eligible for the bounty. The object of the bounty is to encourage construction to replace the lost vessels and also help to relieve the unemployed situation.

DR. HUGH M. SMITH RESIGNS.

A despatch from Washington announces the resignation of Dr. Hugh M. Smith, United States commissioner of fisheries. Among the candidates prominently mentioned as his successor is Dr. George W. Field of Sharon, former chairman of the Massachusetts fish and game commission. Recommendations and endorsements of Dr. Field from Senator Lodge and others have gone to Secretary of Commerce Hoover who will make the recommendation for appointment to the president.

SERIOUS FALLING OFF IN VALUE P. E. I. FISHERIES.

Charlottetown, P. E. I.—The following tabulated statement of the Fisheries of Prince Edward Island has been furnished by Dominion Inspector Gullant:

Lobsters—31179½ cases—Packers' value...	$629,600
" Tomalley	1,075
" Sold in shell	18,624
Cod, Haddock and Hake	54,940
Herring and mackerel	59,506
Smelts and Trout	68,081
Caplin and Eels	4,837
Tommy Cod and Clams	494
Oysters	25,669
	$862,826

Capital Invested.

Vessels and Boats	$176,098
Nets	55,734
Trawls and Hand Lines	11,380
Lobster Traps	239,555
Piers and wharves	68,000
Small Fish, Smoke and Ice Houses	23350
Lobster canneries and equipment	183,795
	$757,912

Men and Women Employed.

Men	2,189
Women	714

Statistics for 1920.

Lobsters	$1,400,000
Oysters	22,400
Herring	61,566
Mackerel	29,440
Cod, Hake, Haddock	60,071
Clams and Quahaugs	388
Eels	1,500
Smelts	154,820
	$1,730,285

INQUIRY FOR OUR FISH.

The following trade inquiry is reproduced from the Commercial Intelligence Journal, Department of Trade and Commerce, Ottawa, and anyone interested may obtain information by writing there and referring to the index number.

3879. Dried and pickled fish.—Well-established firm of Jamaican importers wish a connection with Canadian exporters of dried and pickled fish. Will arrange either for representation or to purchase on their own account. Will only consider business with fishermen or fishing company, and do not invite offers from brokers.

MARKET CONDITIONS IN CUBA.

J. L. Gonzelez-Hoyuela, Office of the Canadian Trade Commissioner.

Havana, January 15, 1922.—Codfish.—Following the market of origin, in which this product has risen in price from $9 to $10, the local market has also reacted. The present price here is from $10.50 to $11, with more firmness noticeable. It is stated that cod in Norway is being quoted at from $12 to $13. This rise is due, it is said, to a better rate of foreign exchange.

PACIFIC COAST SECTION

HALIBUT GETTING SCARCE.

Editor Canadian Fisherman.

That some steps should immediately be taken to conserve the halibut, is of vital interest and fully understood by the vessel owners and fishermen alike. Better late than never, but as far as this season is concerned, the damage is already done, as it is a well known fact that the majority of the halibut are depositing their spawn between November 1st and the 1st day of February.

During this period, the fish congregate upon the spawning banks in large numbers, while the fishing goes on, almost continually, day and night, until the vessels are filled.

Fishing boats of all kinds and descriptions can here be seen, going and coming, in all directions, a great many returning to port with deck-loads.

This is indeed the harvest season for the fishermen, but it is also the season when the extermination of the halibut industry is in full swing.

There are not yet any definite figures available, as to the amount of halibut caught during this, 1921-1922 spawning season, but I have before me a table showing the total number of pounds caught in the corresponding period of last year. Judging from this I feel safe to estimate, that the combined. American and Canadian fishing boats, have brought in to various ports, on Puget Sound and British Columbia, no less than eight million pounds of halibut, fish that had no chance of depositing their spawn. What an enormous loss to the future of the fish industry this will cause is surely beyond human comprehension.

There was a time still in memory of the fishermen of to-day when the banks of the coast of Norway, were yielding bountifully, but harvested in the same manner as here. No one thought of any closed season to protect the fish. Now the halibut is almost extinct over there.

Not so many years ago the annual catch on the Grand Banks in the Atlantic was not very far below any year on the Pacific in proportion to the number of vessels engaged.

According to the "Pacific Fisherman" the halibut landings at principle Atlantic ports for 1920 amounted to the insignificant total — (in comparison with former years)—of only 3,822,265 lbs.

Not any longer ago than 1913, the big steamers like the "Zappora", the "Star" and the "Chicago" would leave Seattle on a fishing trip, and return within a fortnight with capacity loads.

It was not an unusual thing those days for the fishing schooners—after arriving on the Southern Banks only a few hours outside of Cape Flattery—to secure full cargoes inside of 48 hours.

Yes indeed, the fish were so plentiful that it did not seem to matter much where the fishermen planted their trawl, as long as they had the right depth and desirable bottom. There were halibut almost everywhere.

Times have changed.

But times have changed and it has not taken very long. The quick trips and the full loads are matters of the past, outside of the season—when the fish is spawning. The nearby banks are exhausted. Schooners leaving Seattle for the western banks have a journey of fifteen hundred to two thousand miles ahead of them, although the distance will vary, according to the market where the catch may be disposed of.

During the spring and summer the fish is scarce. Rather often after a long trip, when the vessel returns, her cargo will not cover expenses. Still, there are men who will insist that the annual catch has not diminished to any extent for several years.

This is in a way correct, but they forget to consider the several reasons why this is so. The fishing fleet fifteen years ago or so, consisted merely of a few windjammers and three or four steamers. Since then, a hundred vessels have been built, where there were only two.

Large ocean-going schooners with powerful engines have been added. New and improved methods have been adopted—new models—the "longliners," vessels, that are operating successfully, day and night, have rapidly increased in numbers. It is therefore safe to predict, that should this fishing go on uninterrupted, for the next ten years, at the same speed as at present the halibut would stand a fair chance of becoming extinct. You may ask any fisherman, and if he is sincere he will tell you that the fish is decreasing so rapidly that the halibut fishing may soon cease to be a profitable occupation.

That something must be done to prevent the extermination of the fish is evident, and the only remedy is a closed season. But an agreement between the vessel owners and fishermen to cease operation for a specific period of the year, will absolutely not solve the problem. No, it must be an agreement between the two interested nations. Let the governments of Washington and Ottawa come together, and enact a law or treaty absolutely forbidding any fishing of halibut or marketing of same between November first and first day of February each year, and if this is not accomplished in the near future the halibut—the most delicious of fish—may soon become only a memory of formed "good eats."

A FISHERMAN.

PLANNING TO RESUME WHALING OPERATIONS.

Owing to the conditions of the oil market whaling operations were suspended in 1921 but this year the Consolidated Whaling Co., of Victoria B. C. are planning to resume operations and it is expected the first steamers will get away about the 1st of April. The market has improved and it looks as if operations were warranted.

SHIPPING FROZEN FISH VIA THE PANAMA CANAL.

The first shipment of frozen fish to New York via the Panama Canal went forward on the Nawsco steamer Neponset which left Vancouver on Jan. 19th. The New England Fish Co. shipped 200 tons of fish. This is the initial shipment by this route and the result will be watched with interest by all concerned, both by the Pacific coast shippers and the Atlantic markets. The Admiral Line, agents for the Nawsco Line, have announced that there will be monthly sailings of refrigerator ships.

SAVE SALMON FISHERY.

Situation Explained to Hon. Ernest Lapointe.

Vancouver, B.C., Feb. 2.—British Columbia's salmon depletion problem has been laid before Hon. Ernest Lapointe, Minister of Fisheries at Ottawa, according to the announcement of Hon. Wm. Sloan, provincial commissioner of fisheries.

Hon. Mr. Sloan told a gathering of cannery men here that failure of the United States Senate to ratify treaties for the protection of the Fraser salmon run, and failure of the Washington State Fisheries Board to guarantee regulations, was having the effect of making the famous salmon river, the Fraser, a thing of the past, and unless action was taken immediately northern British Columbia streams would suffer a like fate. "The situation in the northern waters is entirely up to our own Government," Mr. Sloan declared and said that he had placed the whole situation before Hon. Ernest Lapointe, and hoped that a new fisheries policy would be decided upon soon that would restore the salmon fishing industry of the province.

TIN FOR SALMON CANS ARRIVING FROM WALES.

The steamer Mongolian Prince arrived in Vancouver from Swansea, Wales the last part of January with 2500 tons of sheet tin for the American Can Co. This tin will be used in the manufacture of cans for the salmon canneries in British Columbia this year. Four hundred tons were unloaded at Victoria for the salmon canneries on Vancouver Island.

For many years the tin used in these cans was purchased in the United States but conditions were such this year that Wales secured most of the orders. The Steamer Eastern Prince left Wales about the first of February with another 700 tons of tin for Vancouver. From all indications next year will see an even larger movement of tin from Great Britain to Vancouver. This is certainly trading in the Empire.

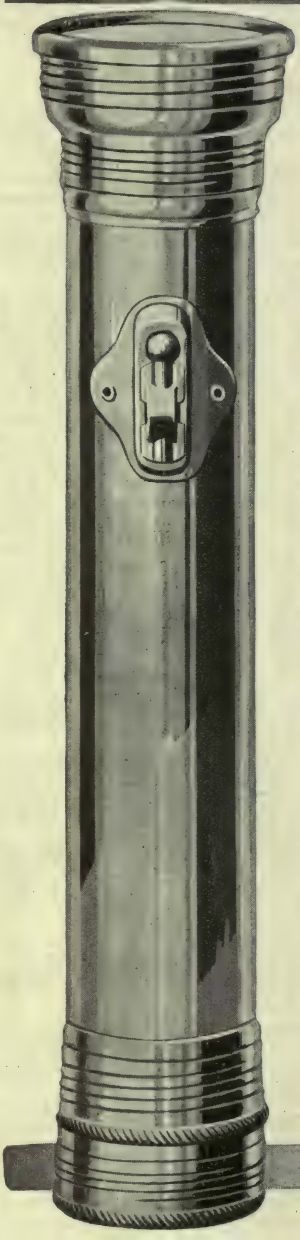
JOHN P. BABCOCK TAKES A TOUR OF EUROPE.

John P. Babcock, Assistant to the Commissioner of Fisheries for British Columbia left Vancouver about Jan. 19 for a trip he has been looking forward to for the past forty years. Sailing from New York he will tour the Mediterranean and go up through Italy and France to Belgium and England returning to Victoria in June. Mr. Babcock has been connected with the British Columbia fisheries department for the past twenty years.

S.S. NEW ENGLAND TIES UP FOR ANNUAL OVERHAUL.

The steamship New England arrived in Vancouver during the latter half of January for her annual overhaul after a most succesful year in Alaska halibut fishing. Although it was a short season, at the same time the fishermen made an average of $1700.00 net for each man. This, it is figured, was twice as much as the fishermen made on the independent halibut fishing boats.





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CEASE HALIBUT FISHING UNTIL MARCH 15th.

The Fishing Vessels Owners Assn., of Seattle, Wash., represnting 60 per cent of the halibut fishing fleet, at a meeting held in Seattle the last January, agreed between themselves to cease fishing from the 1st of February until March 15th. Those owners of vessels represented at the meeting who had ships at sea will have them tied up as soon as they come into port.

There may be a few seine boats (small type) that may continue to fish but the number is limited and does not amount to anything as to catch.

This is the first time such a move has ever been made on the Pacific coast.

It is figured that by tieing up at this season of the year the halibut will have a chance to spawn. Conservation in the halibut industry on the Pacific coast has been talked of but up to this time no concerted move has ever been made to put any practical operation along such lines into effect.

WE GOT $29,471.94 FROM SEALS.

During the month of December, 1921, there was turned into the Treasury of the United States the sum of $137,525.75, the proceeds of the sale of 10,060 Alaska fur-seal skins taken in 1919 and sold at public auction in St. Louis on May 23, 1921. In addition to this sum there was paid to the Governments of Great Britain and Japan each $29,471.94 as their share of this sale, as provided by the North Pacific sealing convention of July 7, 1911.

LEAVE IT TO FATHER

Harold : Dad, does "satisfied" and "contented" mean the same?

Dad : Practically so, my son.

Harold : This paper says that Mr. G. Rich "is satisfied that his wife has eloped with the chauffeur." Does that mean he is contented?

Dad : Very likely, my son.

Flaherty — Mr. Chairman, Oi move thot—

Chairman — The gentleman is out of order.

Flaherty — Ye're a liar! Oi niver felt betther in me life.

SAFETY FIRST

Her Daughter — "Mama, you know that phonograph record that you had made of your voice?"

Mrs. Henpeck — "Yes."

Her Daughter. — "Well, whenever you're away, pa puts it on the machine and sasses it something awful."

BIG INCREASE IN THE DECEMBER FISH CATCH.

Eighty Thousand Cwts. More Taken as Compared With Last Year, Despite Fact Weather Conditions Were Unfavorable.

Weather conditions on both the Atlantic and Pacific coast were not very favourable for fishing, during the month of December. Notwithstanding this, however, a number of kinds of fish show increased catches over the same period last year. These increases are chiefly on the Pacific Coast.

The total catch of fish on both coasts during the month was 553,026 cwts. valued at $1,213,625 as compared with 473,716 cwts. valued at $964,143 during December, 1920.

There were 70,739 cwts. of cod, haddock, hake, and pollock landed, compared with 75,679 cwts. during the same period last year.

The extended lobster season closed on December 15th. During that period in those districts where the season was extend there was a total of 33,704 cwts. taken. This quantity produced approximately 6,953 cases and 19,789 cwts. for use fresh. In that part of the Bay of Fundy shore of New Brunswick where the regular season opened on November 15th, there were 2,357 cwts. taken during December compared with 2,726 cwts. in December, 1920. Since the opening of the new season there have been 5,371 cwts. taken, compared with 6,336 cwts. during the same period in the preceding year. As no canneries operate in this district, the whole catch was shipped in shell or used locally.

The catch of smelts during the month was 22,419 cwts. compared with 15,299 cwts. in the same period last year.

On the Pacific Coast there was a great increase in the catch of halibut, 23,265 cwts. being taken against 9,060 cwts. in December, 1920.

The catch of herring on the Pacific during the month was 382,278 cwts. while 349,639 cwts. were taken during the same period in 1920.

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THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association

VOL. IX GARDENVALE, P. Q., MARCH 1922 No. 3

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-:- EDITORIAL -:-

JAMES H. CONLON, Editor

NOTICE.

The publishers of the Canadian Fishermen announce that dating from April 1 subscription to this journal will cost two dollars ($2) instead of one dollar ($1) which is the prevailing rate. Those whose subscriptions are about to expire and those desiring to become new subscribers are advised to communicate with this office before April 1.

WE FEEL WE'VE WON.

The Hon. Mr. Lapointe, Minister of Marine and Fisheries, received with the utmost courtesy and attention the deputation from the fishing industry which waited upon him on February 23 and asked that a separate department be created to administer the fisheries of Canada. Led By J. A. Paulhus, vice-president of the Canadian Fisheries Association, and one who has played an exceedingly important role in the effort to develop our industry, the delegation included men of outstanding prominence on both coasts, such as the Hon. Alex Manson, attorney-general of British Columbia, F. E. Burke, president of the B. C. Salmon Canners' Association, A. H. Brittain and D. J. Byrne, both of Montreal, past presidents of the C. F. A. There were numerous others besides, from both the east and the west, and it is doubtful if any delegation, heretofore, had the advantage of such thorough representation.

The conference with the minister lasted less than an hour, but a strong array of arguments was advanced in that time. In consideration of the manner in which this very modest request is being urged from all quarters and from a multitude of organizations, and also in view of the fact that ways and means were advanced for granting the reform without extra expense, there seems little doubt that the minister will accede to our wishes.

This, at least, is our earnest wish, and we can assure the minister that, if he is progressive enough to see the importance of our claim where his predecessors have ignored us, his name will go down in the history of the fishing industry as one who did something concrete for the trade. We have been soothed to sleep, heretofore, by the platitudes and decorous conventionalities of previous ministers of the department, but we feel that we have in the Hon. Mr. Lapointe one who has the courage to do right when he is convinced that it is the right and one whose convictions will not be subordinated to unworthy considerations.

Needless to say, we shall be sadly disappointed if the minister fails to measure up to our expectations. We have gone to the extent almost of taking it for granted that his ipse dixit has been given.

LET'S TIGHTEN UP.

We have for many years sold a considerable quantity of fish to the United States. In one way it has been a good customer of ours, but in a good many instances, we regret to say, business transactions have not conduced to very friendly relations on the part of the seller and the buyer. From the shores of Lake Erie, from the Lakes of the Middle West, from Gaspe and from Nova Scotia the same story comes. Some fish buyers across the border seem to have adopted it as a principle of their business that they shall not pay the stipulated price for the commodity they buy of the Canadian fishermen. If the happening were occasional it might be charitably ignored, but the system is altogether too general to escape attention.

The producers of Lake Erie have been so hard hit by losses on shipments, simply by a cutting down on the invoice prices by unscrupulous buyers for some manufactured reason, that it is understood they have in mind a co-operative measure to control the buying price of their commodity from this side of the border. Producers on the Gaspe coast and in Nova Scotia and elsewhere who are plagued with the same trouble would do well to take the suggestion into consideration. It should be a simple matter to blacklist buyers who make a constant practice of this, and prevent them from getting the supplies they need until they have altered their tactics. There are reputable houses across the border, and these shysters in the trade are just as much a nuisance to the legitimate dealers as they are to our producers.

We are very pleased to have the business of the United States. It represents many millions of dollars, but that conveys nothing to the producer unless it leaves an adequate margin between the cost of production and marketing and the price he gets from the U. S. buyer.

TWO SMILING LITIGANTS.

The transfer of the administration of the fisheries of Quebec from Ottawa to the provincial capital, made effective by order-in-council the middle of February, strikes us as a good business deal on the part of both the federal and the provincial governments. We learn on good authority that it will effect a saving of approximately $70,000 in federal administration, which Quebec is willing and quite capable of bearing in her position of affluence. Only a week prior to the announcement of a setttlement to the age-old dispute, J. F. Bugeaud, representing Bonaventure in the local legislature, harangued the federal authorities about the neglectful attitude they were taking toward the Gaspe fisheries; and he presented facts and figures to support his contention that this portion of Quebec was not receiving from Ottawa its just share of federal appropriation for the development and advancement of the fishing industry.

Of course, with the new King administration exerting every effort to cut down on expenses, it is hardly possible that it should have felt disposed to increase the $70,000 deficit on Quebec fisheries administration for the purpose of developing Gaspe. On the other hand, Quebec, which completed business last year with a fat surplus, has the wherewithal to carry this deficit and multiply it at will. Furthermore, Gaspe will have a greater grip on the attention of the Quebec legislature than it could have on Ottawa and will enjoy the advantage of a moneyed proprietor in place of a bankrupt one.

On the face of it, it may seem that a precedent has been established which may lead ultimately to the total decentralization of fisheries administration. But how many of the provinces are willing to relieve the federal government of deficits? Other provinces may be ambitious to take over the administration of the industry, but, as in Quebec, they cannot expect to take over the revenue without paying the bills; and where there is invariably a deficit we doubt that there will be much clamoring at the minister's door at Ottawa about Quebec favoritism. Quebec is in the fortunate position where she is able to pay for luxuries. Dryer provinces are struggling along with kneeless trousers and elbowless sleeves, figuratively speaking, and their coffers are dry enough without taking on new business to soak up what little remains.

Generally speaking, Quebec will now collect all the revenue from the fishing industry and pay all the bills associated with administration; she must satisfy all complaints which have heretofore been directed to Ottawa. But the federal government still has in its hands the conservation of the industry. It rests with Ottawa to say when fishing shall and shall not be carried on, and to provide regulations to properly safeguard the resource.

So on the whole it cannot be said that either party in the transaction has made a bad deal. Ottawa rids itself of an annual bill of $70,000 and establishes no dangerous precedent for relaxing its authority. Quebec on the other hand got what she wanted. A long dispute has been brought to an end and each of the disputants smiles in the belief that it has won a victory. What an admirable climax!

Elswhere in this issue will be found the history of the whole case from the time of Confederation to the present.

IS DANISH SEINE A CURE?

Elsewhere in this issue we publish a valuable article from our British correspondent on the use of the Danish seine; and along with that we have an interesting announcement that James Dunne of North Sydney, N. S., has purchased gear to experiment with the new equipment in Canadian waters. His gear is designed for cod, haddock and mackerel fishing. Mr. Dunne, it is reported, is negotiating with experienced seine fishermen in the Old Country to operate the nets, and he purposes using steam drifters held by private owners in Cape Breton.

The trend of our special article and the facts set forth by Mr. Dunne indicate that there is a possibility that the seine net may prove suitable for many branches of our Canadian industry. It may, as he says, do away with the expensive steam trawler, and at the same time produce in equal volume and quality at the minimum cost. Mr. Dunne is showing commendable enterprise in launching into the experiment and is placing a good deal of confidence in what is told him from the other side. The results he achieves will be watched with the keenest interest by every fisherman in Canada.

The situation in the industry at the present time, with fish prices almost down to the 1914 level and in some cases lower, with overhead charges still hovering close to the war maximum, presents a serious problem to producers. They are looking for an escape from their dilemma. Would it not be appropriate to suggest to the authorities at Ottawa that the government take up the investigation immediately; that it purchase a set of gear and experiment in the various branches of our fisheries under all conditions and submit a comprehensive report of its findings to the trade?

While producers are seeking ways to cut down on production costs, most of them have not the means for carrying on extensive and expensive experiments of this nature. But if there is any merit in the Danish seine in regards to its application on this side of the Atlantic, would the new equipment not find almost spontaneous introduction following a favorable report from some expert in the department at Ottawa? Individual experiments do not always prove satisfactory, and their results are not generally viewed with the same confidence as the results of official investigation.

COMPETITION FROM ABROAD.

Must it be admitted that we are compelled to go to foreign countries for a brand of so-called sardines that appeals to the higher class Canadian appetite?

Is it true that we are obliged to go to Scotland or Ireland to procure a refined quality of canned and pickled herrings to tickle the palates of Canadian epicures?

We reproduce herewith an item from the Fish Trades Gazette of London, which is self-explanatory:

"The result of inquiries in the autumn of 1920 as to possible new outlets for Irish cured herrings indicated that a market might be found in Ontario, Canada, for fish of good quality, particularly of the larger selections. With a view to a practical test, 100 half-barrels of Crown-branded fulls were purchased and consigned on a commission basis to agents in Toronto in November. They sold in January at 10.25 dollars per half-barrel, duty paid, equivalent at the prevailing rate of exchange approximately to 44s. 6d., c.i.f. This price, it is said, appears to have been about 2s. 6d. better than the price ruling at the time for similar fish of other origin. The buyer subsequently reported that the Irish herrings gave satisfaction and, although new to the trade, appeared to be preferred to others. The duty on herrings is 35 cents (1s. 5½d.) per 100 lb. net, and on the half-barrels 17½ per cent of their value."

Can you imagine it! Herrings from Ireland finding a profitable market in Ontario, while not more than five percent of that province's own fish is consumed locally. There is no way of ascertaining what volume of our pickled herrings secures a market there, but from personal observations it seems the amount is almost negligible. But that is not the point. The fact which is most disappointing is that these imported herrings should command more favorable patronage.

And herewith we reproduce another item from the Fishing News of Aberdeen, Scotland, which teaches a similar lesson:

The Fishery Board for Scotland direct attention to the following paragraphs in the recently published official report on the Conditions and Prospects of British Trade in Canada:

Canned Sardines. — A certain proportion of canned sardines and similar fish come from the United Kingdom, and it is considered that this trade could be developed, for the quality of some of the sardines imported from foreign countries is decidedly inferior.

Canned Herrings. — The same applies to canned herrings, for those of the quality usually sold in the United Kingdom are difficult to obtain in Canada.

Now if the producers of the Old Country find a profitable market for such commodities as canned sardines, canned and pickled herrings in this country, is it not logical that the same markets are open to our own Canadian producers, provided they put the same quality into the goods?

Would one intimate that the young herrings caught so plentifully in the Bay of Fundy cannot be graded and packed in tomato sauce or olive oil and made to compete favorably with foreign sardines? Or is there any reason why our canned herrings cannot compete in quality with outside production? There may be something of a limpid excuse for pickled herrings, but it must be admitted that if the advice of the expert in the department at Ottawa were heeded, a better grade of pickled fish would result.

If we cannot gain these home markets, if we cannot compete for quality right here at the source of production, how may we expect to successfully compete in the markets abroad? It may be that there will always be a limited outlet for fish of indifferent quality at an indifferent price, but it strikes us as unsound business to be content with this class of trade while we have the natural means and the ability to produce a high-class and more profitable commodity.

Are we right?

PISCATORIAL PARAGRAPHS.

President Harding recently enjoyed a rare treat of mackerel which had been sent to the White House by the Frank E. Davis Fish Co., of Gloucester. It would be an easy matter to increase fish consumption if the public could procure at the same price.

Again we are impelled to ask: Are the sockeye salmon and the halibut to be slaughtered ruthlessly for another year before action is taken to protect the species by international understanding? Or is it the intention to let these most lucrative branches of the industry die a natural death?

In view of the strides that have been made recently in developing a fish trade with Australia, our exporters should be deeply interested in the visit to this country of the Hon. George F. Pearce, a member of the Australian government, and his conference with Ottawa regarding reciprocal trade concessions.

In England the fishing interests have had worries very much akin to our own—that is, until we saw the Hon. Mr. Lapointe. They have been trying for years to separate fisheries from agriculture. The fish men of Grimsby are hoping that the Geddes axe, which has been cutting so viciously into government appropriations, will swing so hard that it will definitely cleave fisheries from agriculture. Not bad, eh?

The daily press tells us that definite action is being taken to transfer the natural resources of the prairie provinces to the control of the local governments. This would include the fisheries, no doubt, but to what extent the control of the inland fisheries will be released by Ottawa remains to be seen. The matter of regulating fishing will, it is presumed, still remain, under the jurisdiction of the federal government. The industry will be interested in developments.

Danish Seine in Canadian Waters

Nova Scotian imports modern gear to fish off Atlantic coast — Merits of new equipment described by Old Country expert.

In connection with the introduction of the Danish seine into Canadian waters, a report recently appeared in a British journal to the effect that James Dunne, of North Sydney, N.S., was making attractive offers to Nair fishermen to come to Canada and operate steam drifters. His intention, the paper said, was to secure the services of men holding skippers' certificates and experienced in the use of the seine-net. "The younger fishermen in Nairn who do not possess drifters of their own are finding the appeal attractive." It is understood that about seventeen have accepted the proposition.

Mr. Dunne was requested by the Canadian Fisherman to corroborate the above statements, and in reply said:

"We have in transit the necessary gear to operate seine-net fishing on this side, utilizing a number of steam drifters held here (North Sydney, we presume) by private owners.

"This mode of fishing has been in existence for over fifty years, in various parts of the world, but perhaps the Danish fishermen are primarily responsible for the very practical gear used to-day. Confining operations to motor boats they have fished the Dogger Bank with tremendous success, and it would seem as if their continued good fortune in later years proved the incentive for Scottish fisermen to go a step further and equip their drifters with 'gear' in proportion to the size of the boat. At least we find the experiment emerging at the close of the 1921 herring fishery, with the various drifter owners hoping to offset, by its means, the very severe losses sustained through the failure of the herring business.

"It is hardly sufficient to say they have been successful in the few short winter months of experiments; they have proven beyond doubt the method is the most economical and bountiful of any fishing appliance yet invented, and its continuation marks an epoch second only to that created by the introduction of steam for fishing purposes. As one writer says: "it threatens to render the huge steam trawler fleet of the British Isles obsolete."

"Its chief advantages over the steam trawler are as follow:

First: The actual fishing operation is carried on while the vessels remains at anchor, fuel being required only for steaming to and from the grounds.

Second: It has been proved that as much fish can be caught with the seine net as with the otter trawl in the same time.

Third: The quality of the fish caught is much superior, due to the lightness of the gear, and the slow speed of hauling it in. The fish are not bruised or otherwise damaged.

Fourth: Little or no damage is done to the fishing grounds. The bag is not dragged along the sea bottom so heavily or so quickly as in steam trawling. Absolutely no inmature fish are caught.

Fifth: It is adaptable to all kinds of 'ground fish,' also mackerel; while any type of vessel that would be suitable for carrying fish can be used.

Sixth: The initial cost of equipping a vessel is only one-fourth the cost of fitting out a steam trawler.

"The gear consists of a small steam winch, with which to haul in the net; a rope-coiling machine which when connected with the winch automatically forms two coils of rope on the deck at the same time; and rope rollers to guide the rope over the ship's rail to the winch drums. There are three different kinds of nets, one each for haddock, plaice and cod. We are substituting the plaice for mackerel nets. The rope warp used is of a small size, specially hard laid manilla. An outfit includes two warps, each one thousand fathoms in length. The entire outfit can be installed for approximately $1,200. (This would include six complete nets, two of each kind). The nets can be replenished any time complete for $90 apiece. Compare this with the average cost of fitting out a modern steam trawler (at least $4,500) and you have its first important value.

"We are advised that the method is most suitable for shallow water, with flat, sandy bottom. Opinion is yet divided as to whether it can be used in rough weather. It is generally conceded, however, that they can fish in most kinds of weather, so long as there is daylight and an absence of thick fog.

"Our locality offers unlimited scope for the successful operation of this fishing. We have numerous stretches of shallow water, with good sandy bottoms abounding with 'ground' fish of all kinds with little or no wreckage to contend with, as is the case with the Dogger Bank area, where war wreckage will more or less hamper operations for years. Indeed, it is not too much to state that the majority of our choicest fishing grounds presents a fertile field for this innovation, and its adoption must genuinely pave the way for the greater development of the fisheries by producing the volume with every regard for quality at the minimum of cost, and with the least possible damage to our bountiful fishing areas."

Writing more recently, Mr. Dunne stated that this gear had arrived from England, and that he was awaiting the opening of the season to start his experiments. Only four men from Nairn are under actual orders, but Mr. Dunne is in touch with others in Scotland, as there are nine steamers in the fleet.

The Utility of the Danish Seine.
(By Our British Correspondent.)

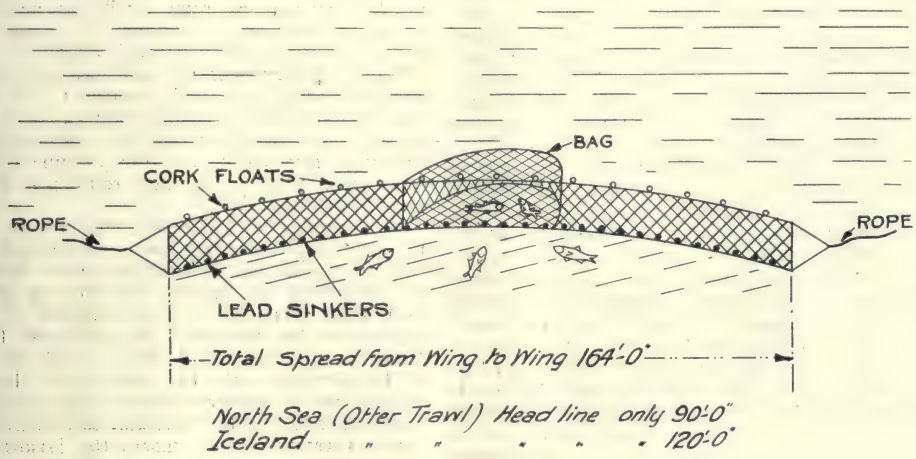
In our December issue we printed a statement about the boom that has been witnessed in the British fisheries concerning the Danish seine-net. As this net is now being used in other European countries and might be profitably employed in Canadian fisheries, it may be useful if it is more fully described. For over sixty years it has been in common use in Denmark, particularly for the capture of plaice, gradually being improved, and it underwent special development during the war, when it was employed not only for flatfish, but for haddocks, for which there was a keen demand in Germany.

The Danish seine, or **Snurrevaad**, to give it its proper title, was invented in 1848 by a Danish fisherman, Jens L. Veaver, who was later decorated by the Danish government for the invention. It was, however, not

until after 1880 that it was extensively employed in the capture of flatfish, which were brought to port alive in welled vessels. Two kinds of net, or even three, are now in use—one for plaice, another for haddock and the third for cod. While it is called a "seine", its mode of working, and indeed its shape, convert it essentially into a trawl. The net is not dragged at the stern of a moving vessel, as in the case of the beam or otter trawl, but the same effect is produced by dragging the net along the bottom to the vessel lying at anchor. For many years, in fact, up to the war, the motor-cutter employing the **snurrevaad**, after anchoring fore and aft, on a suitable ground, sent out a little motor auxiliary boat with the net on board, the end of one of the hauling ropes being fixed on board the cutter, and this rope paid out by the small boat as it moved away. When all this line was paid out, the boat threw over the net and motored back to the cutter with the other hauling rope. Both ropes were then hauled in together, and equally, by a motor-winch, and by an ingenious arrangement the rope was automatically coiled in a pile. It seems a "lazy" style of fishing, for one may see the men standing about the dock smoking while the net is being hauled, merely keeping an eye on the operations. Perhaps it is too easy for Canadian fisherman!. The little boat, as soon as it has brought back the end of the second hauling line, goes off again in another direction with a second net and repeats the process. Thus, in the course of a day, a large area of ground may be swept, or "trawled" over, and a profitable catch obtained.

When the German demand for haddocks came the haddock is a favorite fish the Danish cutters had to go farther to sea and to encounter on occasion heavier weather. The small motor-boat for "shooting" the net was then discarded, and another method adopted. A large buoy is anchored in the position where the cutter itself would have been, and to this the end of one of the hauling ropes is attached. The cutter itself then moves away, paying out the line, shooting the net and returning to the buoy, paying out the second line; and when the buoy is reached, the two ropes are put on the winch and the net dragged to the cutter. The next haul may be made in another direction; indeed, the whole of the ground around the anchored buoy may be swept for a distance of over a mile from the buoy as a center.

The dimensions and particulars of a net for plaice or flafish are as follows, but many of them are larger: The length of each wing is from 80 to 90 feet; the length of the central bag, 30 to 40 feet; depth of wings, 50 meshes at near end; depth of mouth of central bag, 10 feet; mesh of wings, 2½ inches, of bag, 2 inches and of tail-end of same 1¾ inches. The net used for haddocks has a bag about half again as long, with the mouth twice the depth, while the meshes of the bag, and about a fathom of the wings, are 1¾ inches (the remainder of the wings being 2½ inches), those of the tail-end of the bag being 1⅜ inches, all from knot to knot. The special feature of the net is the length of the hauling ropes. When fishing in water of 10 to 15 fathoms the usual length is about 600 fathoms; but in deeper water longer ropes are used, about 900 fathoms in water around 25 fathoms depth. Lately, the **snurrevaad** has been employed in deep water in the Skagerrack, up to at least 100 fathoms, mostly for "witches", **(Pleuronectes cynoglossus)**, and the ropes then still longer.



DANISH SEINE NET

Motor Cutters Described.

The net is employed chiefly by motor cutters, the general dimensions of the vessels being approximately as follow: length over all, 48 feet, and on the waterline 43 feet; beam, 13½ feet; draught, about 6 feet. The gross registered tonnage of the craft ranges from 15 or 16 to 28 tons and over. The motor-engines, with which they are equipped, (of Danish, sometimes Swedish make) are from 30 to 45 h.p., which give speeds of from 5 or 6 to 8 knots, with a consumption of from 320 to 400 pounds of petroleum per day. The cost of a seine-net is from £28 to £35. The seine-fishing is prosecuted from several Danish ports, but principally from Esbjerg, the "Danish Grimsby," on the North Sea coast, where the motor-fleet is not far short of 400 in number. In 1919 there were 5401 **snurrevaads** in use

(Continued on page 61)

Quebec Wins Long-Drawn Battle

Fisheries of province turned over to local administration by order-in-council — History of dispute reviewed.

On February 14, the cabinet at Ottawa passed an order-in-council which gave effect to the agreement which turns over to the Province of Quebec administrative control of the fisheries of the province. The ancient dispute between the Federal and Provincial governments has thus been definitely settled.

The Hon. J. E. Perrault, minister of Colonization, Mines and Fisheries in the Quebec government, brought general applause from the members when he announced in the legislature on February 14 that the agreement had been reached over the question of the respective rights of the two governments in Quebec tidal waters. Mr. Perrault had been to Ottawa to interview the Minister of Marine and Fisheries, the Hon| E. Lapointe, and gave assurance that the order-in-council had actually been passed by the Federal Cabinet, and that the complete control of all fishing in tidal waters within the province, and consequently the right to levy license fee on fishermen, had been handed over to the Provincial government, as well as the two hatcheries at Tadousac and Gaspe, which had been constructed and maintained by the Federal authorities, and which cost in the neighborhood of $150,000 each.

The question that has been at issue for many years, and which is now so satisfactorily settled, was brought to a head by the decision of the Privy Council last year.

This decision declared that the public has a right to fish in all tidal navigable waters and in all waters that are accessible by the way of navigation from the sea. It also declared that the Federal authority has the exclusive right of regulating fisheries, and also that if, in order to exercise the right of fishing, it was necessary for the public to make use of the soil or the bed of the navigable waters or the waters that are accesible by way of navigation from the sea, then, seeing that the bed of such waters belongs to the Province of Quebec, the public could not attach their engines to the soil without a license or permit from that province.

Under this decision the public therefore had the right to fish in these waters provided they did not fix engines to the soil, but the Federal government making use of its power of regulating fisheries passed an order-in-council stating that the public could not exercise its right of fishing without obtaining a Federal license. Therefore, those fishermen who were fixing engines to the soil had to pay a provincial and also a Federal license, totalling about $50 for salmon fishermen, which they contended they could not stand.

Quebec Gets Jurisdiction.

By the settlement that has taken place, the Federal government has handed over the administration of all the fisheries within its territory to the Province of Quebec. From a practical standpoint it means that the fishermen will in future only have one license to pay if they use engines attached to the soil, which license now varies from $10 to $25 for net fishermen.

The settlement also does away with a big issue as to what constitutes navigable waters and waters that are accessible by way of navigation from the sea. In many cases in the province the tide comes into the salmon rivers and extends up ten or twelve miles. Before the decision of the Privy Council, the Quebec government in leasing its rivers for sporting purposes always claimed that these waters fell under their jurisdiction. Under the Privy Council decision the rod fishermen were liable to have people come and fish in the water leased by them under their public right of fishing. As by the settlement these waters again come under the jurisdiction of the Province, the right to regulate them will fall within the power of the Provincial government, and it is probable the Provincial government will pass such regulations as may be necessary to continue the status quo as it existed before the Privy Council decision.

The Federal government itself had realized that such regulations were necessary because if the public had been allowed to fish indiscriminately in tidal waters the salmon rivers would speedily have been ruined, and last November they passed an order-in-council fixing a license fee of $10 for fishermen residing in the province and $25 for outsiders.

Mr. Perrault, in his speech, outlined the difficulties that the fishermen had been experiencing in having both Provincial and Federal authorities exercising control over them, and believed that with the new arrangement there would be a big development of the fishing industry in the province. He mentioned that the settlement applied to all tidal waters within the boundaries of the province with the exception of the Magdalen Islands, which, however, were too far away to be properly controlled by the Provincial authorities, and which would therefore remain under the jurisdiction of the Federal Government.

The vote of $90,000 for the maintenance of fisheries and game was then passed by the House, this being the item on which the debate had arisen.

History of the Whole Question.

A brief explanation of the whole Quebec dispute will no doubt be of interest to many.

There is hardly any room for doubt that at the time of confederation it was the intention that the administration of the fisheries as well as the regulation thereof, in all public water—whether public in the Crown as represented by the Federal government or by the Provincial government—should be handed over to the Federal government. That this was the intention is evidenced by the fact that it was what was done, and it was not until seven years later that any question arose.

In 1874, the Federal government granted a lease of the salmon angling privileges in a portion of the non-tidal waters of the southwest Miramichi River, N.B., to Christian A. Robertson of St. John. The land on either side of this portion of the river had long before (1835) been granted to the Nova Scotia and New Brunswick Land Company. This company in 1875 gave authority by virtue of its ownership of the land to certain other persons to fish in this part of the river. Mr. Robertson prevented them from doing so, when they brought action against him and recovered damages and costs. Mr. Robertson then took action against the Crown for recovery

of expenditures and for damages. This became a test case to establish jurisdiction. The decision of the Supreme Court of Canada in it was given in 1882. This decision was in substance that the ownership of the fisheries in non-tidal waters was not vested in the Federal government by the B. N. A. Act, but that they were previously the property of the riparian owners, whether such were the Provincial government or private individuals, and they so remained.

Following this decision, the administration of the non-tidal fisheries in the different provinces, except in the Prairie provinces, where the Crown lands were owned by the Federal government, was handed over to the provinces; but practically all the Provincial governments began to press claims for greater jurisdiction in the fisheries.

To settle the whole matter it was finally decided to submit certain questions to the Supreme Court of Canada and to appeal from its decision to the Privy Council. The reference to the Supreme Court was made in 1895, and its decision was given in the following year. The decision of the Privy Council was obtained in 1898. The decision was in substance—except in those waters that at the Union passed to the Dominion under the third schedule of the B. N. A. Act—that whatever proprietary rights in the fisheries were vested in the provinces at the time of Confederation remained their property subsequent thereto; but the exclusive power to regulate the fisheries, wherever they might be situated, is vested in the Federal government. Immediately following this decision the different seawashed provinces claimed jurisdiction over all the tidal fisheries, not only in the rivers and estuaries, but in the bays and territorial waters along the sea coast as well. The Federal government on the other hand maintained that there is a public right of fishery in tidal waters and that as such it came within the exclusive administration of the Federal government.

For years negotiations went on with the different provinces to settle the matter amicably; but this was not found possible, and finally in 1913 a reference to the courts was decided upon with British Columbia, in which the other provinces interested became intervenants. The decision in that case sustained the contention of the Federal authorities.

Settled All But Quebec.

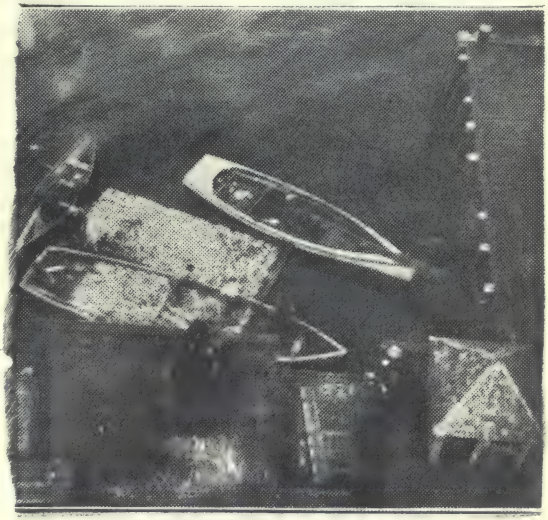
This settled the question in all the seawashed provinces with the exception of Quebec, which contended that as the decision was largely based on Magna Charta, and that as Magna Charta did not apply to the Province of Quebec, the decision did not affect the situation there. In order speedily to settle the matter, it was finally agreed that a reference should be submitted to the Court of King's Bench in Quebec, under authority of a Provincial statute which was obtained for that purpose, and that the decision in that court would be appealed to the Privy Council. This was done, but owing to war conditions the decision of the Privy Council was not given until November 30, 1920.

This decision was in effect that while Magna Charta does not apply in Quebec, a public right of fishery there in all waters that are navigable from the sea had been established by certain statutes that were passed in Quebec before Confederation. The administration of this right comes within the purview of the Federal Government. On the other hand, there is a property right in the land under the water—excepting below low-water mark, where no answer was given—and the authority to grant permission to use that soil by attaching stakes or nets thereto in connection with fishing is vested in the owner thereof.

It so happens that in the Province of Quebec nearly all the regulated fishing is done by means of weirs or engines attached to the soil wholly or partly where the province claims it. Hence both the Federal and the Provincial government have jurisdiction in such fishing—the one in the water, and the other in the land under the water. So it was that last year, when the Federal government undertook the administration of the fisheries in all the navigable waters of the province, the provincial authorities also required a license for the use of the land under the water; so the fishermen, through no fault of their own, were forced to take out two licenses and to pay two sets of fees. Also, should it happen that the province would refuse permission to a person, who had a license from the Federal government to attach his fishing engine to the soil, or vice versa, no one would have proper authority, so that no fishing could go on.

The new Minister of Marine and Fisheries has succeeded in making an amicable arrangement with the provincial authorities which will put an end to such an iniquitous state of affairs, and which will, at the same time, relieve the Federal government of a heavy annual expenditure. The province makes large revenues from its leases of angling privileges in its many excellent salmon rivers, to keep up which the Federal government has been maintaining different large hatcheries. To look after these rivers the province finds it essential to maintain a staff of officers, and it was found that these officers could attend to the administration of the shore fisheries as well. The province consequently undertook to arrange that its officers would attend fully to the enforcement of the Federal fishery regulations along the coast, and it also agreed to take over the operation of the hatcheries at its own expense. This arrangement will enable the Federal government to withdraw its staff of local fishery officers altogether.

The Fish Inspection Act and subsequent laws of like character will continue to be administered by the Federal government.



HERRING AT LOCKEPORT, N.S.

Gossip About Fishermen's Races

New schooners expected to take part in the big event — Inshore races arouse enthusiasm of boat owners.

In the New Year's issue of The Morning Chronicle announcement was made of an offer by this newspaper of a trophy for a race or series of "boat-for-boat" races of Halifax next autumn, between vessels of the "shore-fishing" fleet of Nova Scotia. Since then we have learned that the "shore-fishermen" have become enthusiastic over the proposal, and skippers of several of these small schooners have advised us that there should be at least twenty contestants for the trophy. A number of prominent Halifax yachtsmen have become strongly interested in the proposal and Ernest A. Bell, rear commodore of the Royal Nova Scotia Yacht Squadron, is now engaged in preliminary arrangements.

In view of the fact that virtually all the vessels engaged in the shore fisheries are equipped with auxiliary engines, it is proposed that the race conditions shall allow for the use of these, but in such a way as to make the contest all the more interesting as a sporting event. Following the plan already successfully adopted in auxiliary yawl yacht races in the United States, the schooners will each be allowed a sealed tin of an equal amount of gasoline - say five gallons - just about enough to take the smallest or lowest-powered vessel over half the course of thirty or fourty miles. This has been found a very effective handicap in the yawl races, and should work out satisfactorily in the proposed contest. The larger vessel, with larger engine, exhausts her "gas" before the smaller boat, thus serving to counteract the superior sailing speed which the larger schooner, with larger sail spread, may have. Furthermore, the limitation in this way of the use of auxiliary engines would furnish a good test of seamanship, the honors of victory going to the skipper who uses the best judgment as to just when he should and he should not run his engine during the race. Masters of various vessels fishing out of Halifax have heartily approved of this scheme.

It is expected that Halifax, Canso, Sambro, Ketch Harbor, Pennant, Prospect, St. Margaret's Bay, the Tancooks and many other fishing centers,, including Clarke's Harbor, will send vessels to compete.

Speculation on Schooner Races.

Even at this early date, very intense interest is aroused over this autumn's fishing schooner races, and speculation is ripe as to the ultimate international contenders for the Halifax Herald trophy. Most Nova Scotians regard the Lunenburg schooner Bluenose, winner of the 1921 International Fisherman's Championship Trophy, as the logical Canadian defender for this year. However, there is much gossip.

As for the international races, which, in accordance with the Deed of Gift, will be held off Gloucester this year, probably in October, there is no such certainty, thought many "Bluenoses" predict another Canadian victory.

The Nova Scotia fisherman is proverbially cautious in his comment. And he is particularly canny when it comes to comparing the known sailing qualities of the Bluenose, which spent a season on the Banks, raced and is now on her second cargo trip to the West Indies, with the unknown sailing qualities of the fishing schooner Puritan, now building at Essex for Gloucester men who wish to avenge the Elsie, defeated by the big Lunenburg vessel in the International off Halifax last year. The exact dimensions of the Puritan are not known here, but it is generally accepted that, designed by W.Starling Burgess, she will be capable of showing a clean pair of heels to most fishing vessels, and that Captain Angus Walters, Bluenose's clever little skipper, will find the new Yankee schooner a hard nut to crack.

It is generally admitted that the Bluenose is different in some material respects from the ordinary Nova Scotia fishing schooner. She has more "dead rise" (a sharper angle from keel to deck) than most of our fishermen, and is deeper and finer. True, the Bluenose sports a decided bulge amidships, made necessary by the space requirements for Nova Scotia fishing craft, many of which go freighting in the winter and join the coasting trade the year round when no longer fit for the wear and tear of the Banks. But her underbody is, nevertheless, so unlike that of other vessels of the Nova Scotia fishing fleets that she has been able to demonstrate a marked superiority in windward work, generally the supreme test in sailing races.

The Puritan, too, is expected to be much sharper on the wind than the ordinary fishing vessel. Like the Bluenose, she is designed for speed as well as fishing, and the ability of Mr. Burgess to produce fast sailing craft is recognized. The speedy Boston fishing schooner, Mayflower, unfortunately barred from last year's races, was built from his lines and he has made the plans for many swift yachts. Two of the boats flying the United States flag, which competed in the six meter class races in English waters last year, were from his design. It is considered a certainty that the Puritan will be fast.

Whether she will be too fast for the Bluenose remains to be seen. The Gloucester boat, built for fishing only, will be of smaller dimensions than the Bluenose, built for both freighting and fishing, and the effect of this difference in size is problematical, though it seems logical to say that the advantage would be with the larger boat in heavy weather and with the smaller in light weather.

While it is believed at Halifax that the Puritan is the probable challenger for the International Trophy, this is not regarded as a foregone conclusion. The vessel has yet to prove her worth and reports come from Gloucester that another schooner is being built at Essex which may give her a run for her money. This second vessel is designed by Thomas McManus, also of Boston, who was made the lines for a large number of fishing vessels of both the New England and the Nova Scotia fishing fleets. With at least two new vessels as entries, the United States elimination races next autumn should furnish some excitement.

Review of P.E.I. Fisheries

Charlottetown, P.E.I.—S. T. Gallant, Inspector of Fisheries, in reviewing the industry in this province for the past year, states that a great deal of work was done towards restoring the lobster industry to normal basis. The cost of equipment and foodstuffs was somewhat lower, fishermen were willing to accept lower prices for their lobsters and consequently packers were enabled to operate at a profit. Buyers informed him that there were no losses for bad goods in 1921. This can be attributed to the fact that the packers put into practice the advice given them by the inspector and H. W. Tidmarsh before the season opened. They addressed meetings throughout the province, and Mr. Gallant advocates the holding of similar meetings this year, to remind the packers of the absolute necessity of putting up an even better pack than in 1921. Before these meetings are held the packers would like to know definitely, whether the department at Ottawa has anything to offer from a biological point of view.

Scallop fishing, which is something new in this province, was attempted last year, but on account of the extremely windy weather, it was impossible to make a satisfactory test. In Miminigash early in September a boat dragged some ground and found the fish plentiful, but after the fifteenth of October fishing could not be carried on.

In regard to cod-fishing, hake and haddock, the Inspector did not look for any improvement in the catch until the fishermen are assured of some remunerative price. As a matter of fact, a large percentage of the catch of 1921 and the previous year is still on hand.

The Inspector was pleased to note that the lobster packers and buyers are viewing prospects for next year with a good deal of optimism, and now that the cost of living has gone down materially since last spring, there will be a reversion to normal conditions.

Illegal fishing of lobsters out of season is as old as the industry itself, but it has decreased to a very marked extent during the last few years. Last year a determined attempt was made to fish lobsters in the closed season on two sections of the coast; namely, West Prince and St. Mary's Bay. The regular fishery officers, with the aid of one of the Royal Canadian Mounted Police, succeeded in supressing fishing to a very large extent. The regular force, however, is inadequate to cope with the situation. Special guards have been tried, but they have failed miserably. The local force needs to be strengthened by four or five of the R. C. M. Police.

Although the total catch of lobster for 1921 in this province was much smaller than that of 1920, "if we take into consideration," said Mr. Gallant, "the number of canneries in operation, the number of traps fishing, and the unfavorable weather in the month of June, the usual catch was well maintained." Every precaution should be taken to prevent the packing of berried lobsters. This is a matter of vital importance. If the regulations in this respect be well observed there will be ample supply of lobsters for all time to come.

In mackerel and hake there was a fair increase from the previous year. In haddock, cod, herring and smelts there was a decrease. In eels there was a fairly large increase. In oysters there was a fair increase, due to the fact that the fishermen are taking a special interest in liberating all small oysters. The weather too was favorable, and as a result there was a large catch of spat. Consequently, West and East Rivers, and their tributaries, Orwell Bay and Seal River, are now full of small oysters. The future looks bright and promising for this fishery. It is expected that this season oyster fishing will be prosecuted in parts of Richmond Bay and tributaries. This last mentioned area contituted for many years a great source of supply for the world-famed Malpeque. But there was a serious decline in recent years, the industry in that section being brought almost to the verge of extinction, one of the causes being a disease, spread, it is thought, from oysters imported from the United States to restock depleted beds. This disease seems to have run its course, and the expectations are that this once fertile ground will be restored to its old-time fertility.

(Continued from previous page)

Scarcity of freights, plentitude of vessels and low prices of fish have so affected the industry that only one fishing schooner is now under construction at Lunenburg. Smith and Rhuland are building for Captain "Paddy" Mack, who helmed the Delawana to second money in the Nova Scotia 1921 elimination races, a schooner modelled somewhat after the style of the Clintonia, a speedy Nova Scotian vessel designed ten years ago by McManus, of Boston. George Rhuland, of the building firm, himself a designer, has adapted a nice set of plans upon which the vessel is being constructed, but he does not predict any remarkable speed for the schooner. She will be 130 feet over all, 107 feet waterline, 25½ feet beam, and 11 feet depth of hold. Captain Mack is a keen racing enthusiast and there is no doubt that he will have his vessel at the starting line for the Nova Scotia trials next autumn.

The Boston schooner, Mayflower, which was barred from competition in the International fishermen's races of 1921 by the Halifax trustees of the international trophy, has already been entered for the trial races as a challenger for 1922. A formal entry was sent to Charles D.Brown, chairman of the American committee, recently and the matter has also been taken up with William H. Dennis of Halifax, donor of the trophy, seeking a ruling on the Mayflower's eligibility should she win the elimination race this fall.

QUINTAL NOT UNIFORM.

The following information as to the weights of "quintals," etc., in the different markets (extracted from "Fiskets Gang") is useful in considering the prices quoted. In Spain the quintal at Bilbao, Santander, Cartagena, and Malaga represents 50 kilogrammes (equal to 110¼ English lb.), while at Barcelona and Tarragona it represents 40 kilogrammes, or 88¼ lb. In Portugal, at Lisbon and Oporto the quintal is one of 60 kilogrammes, or 132¼ lb., while in Italy it is 100 kilogrammes, or 220½ lb. At Havana, in Cuba a whole case is 45 kilogrammes, or 99 1/5 lb.; this is also the weight at Buenos Aires, but at Rio de Janiero the case weighs 58 kilogrammes, or almost 128 lb.

Little Things That Interest All

NEW SARDINE CANNERY SEEKING CONCESSIONS.

A $60,000 Establishment Planned for St. John.—Will Have to Go to Legislature.

The "St. John Fisheries Limited," of which the incorporators are Clarence R. Stickney, of Eastport, Me., Alva A. Ellis, of Mace's Bay, N.B., and Charles N. Wilson, of St. John, have asked the City Council of St. John to grant them such taxation relief as is provided for new industries under the city regulations. As the general fishing and sardine canning business, which they propose carrying on, is not a new industry, it will probably be necessary for the city to apply to the provincial legislature for permission to extend to them the tax concession which they are asking for. Definite action has not yet been determined on. The company has in view the building of a plant that will cost between $50,000 and $60,000, and that will give employment to about 150 hands.

INVENTS HERRING TRAWL.

In a current report from Sweden some particulars are given of a new type of herring trawl, invented by L.Laurin, of Lysekil. The new device has created considerable interest, and the Swedish government has granted a subsidy of 2000 kroner for the purpose of carrying out experiments with the new trawl. We understand these experiments are to be carried out forthwith.

The new trawl consists of what is described as an ordinary cod end with two wings, each composed of five thin cables which are interlaced so as to form meshes of one metre square. The large size of the meshes permits the trawl to be drawn rapidly through the water; and when the speed reaches 5 to 6 knots the wings are said to act like a wall and to guide the herrings into the cod end.

In the Baltic the trawl is intended to be operated by vessels working in pairs, but if the principle is sound there is no apparent reason why it should not also be capable of employment as an otter trawl. It is stated that the trawl can be used both on the bottom and in the intermediate waters between the bottom and the surface.

LOBSTER BILL KILLED.

The Lobster Bill in the Massachusetts Legislature, proposing a ten and a half inch measure for that State was thrown out of committee in February, after a fair hearing at a meeting attended by about a hundred fishermen from along the coast, who were all strongly opposed to the measure which would make it harder for them to earn a living. Some members of the Legislature also spoke against it.

The fishing sections on Cape Cod and beyond sent delegates who ably represented the lobster men's interests. Other statements clearly proved how much the law would cripple the Boston trade by excluding two-thirds of live imports from Canada. The Bill was finally squashed by a vote of the delegates, three for and 110 against.

WHERE DO FISH GO?

From Seattle comes the information that the Strait of Juan de Fuca and Puget Sound have been invaded by rare and unknown species of fish. Perhaps the descriptive adjectives should not be taken too seriously. So far as the appearance of species not native to a given region is concerned the occurence, though not common, has been noted in pretty nearly every part of the world. In some cases the cause of the invasion is clear; in other cases it is not.

In several instances, predatory species have invaded waters to which they were not native in such numbers that the native species have been killed or driven off. Mariners have encountered fish fleeing in immense schools from pursuers.

It is probable that the sudden migration of species and also the appearance of strange species are due in most cases to a change in the temperature of the environing waters and perhaps to a change in their saltness. The codfish of the Banks keep within cold waters. The species found in warmer waters off the southwest of Europe will not live in Mediterranean waters. It is thought that the boundary line is one of salinity.

It occasionally happens that steady winds, long continued, by their surface friction drag warm water into regions where the surface water is normally cold and vice versa. In such cases the fish, or some species, are apt to migrate. Perhaps this may be the explanation of the visiting schools in Puget Sound. The hypothesis that their instrusion is due to submarine earthquakes is interesting, but it cannot be substantiated by any known facts.

Years ago, about 1879-80, the tilefish came to notice along the northeast Atlantic coast waters. For a year or two tilefish were abundant. They became a considerable factor in the fish food supply of the community. Suddenly tilefish were found floating at the surface, dead, in immense numbers; then the species disappeared from the waters where for a little while it had been plentiful. Nobody could explain the cause of death in the cases of the tilefish that succumbed to disease, shock, unfavorable environment or deep sea enemies. Nor could anybody explain the reappearance of tilefish off the North Atlantic coast when, a few years ago, they were again encountered by fishermen. Why did they quit these waters? Where did they go? And why did they return? An explanation wholly satisfactory is yet to be found.—New York Herald.

BIG U.S. ATLANTIC HALIBUT FLEET.

The 1922 fleet of Lalibatees operating from Gloucester promises to be ever larger than last year. So far it is known that twenty-seven will engage in the fishery, with possible additions as the season advances.

The landing of Halibut at American Atlantic ports for 1921 amounted to 3,868,000 pounds, most of which went to Portland and Boston. Captain Carl Olson of the shooner Elk was high liner for the season, and on the strength of this good fortune he has gone on a visit to Norway.

Canada Holds Key to Fishery Resources

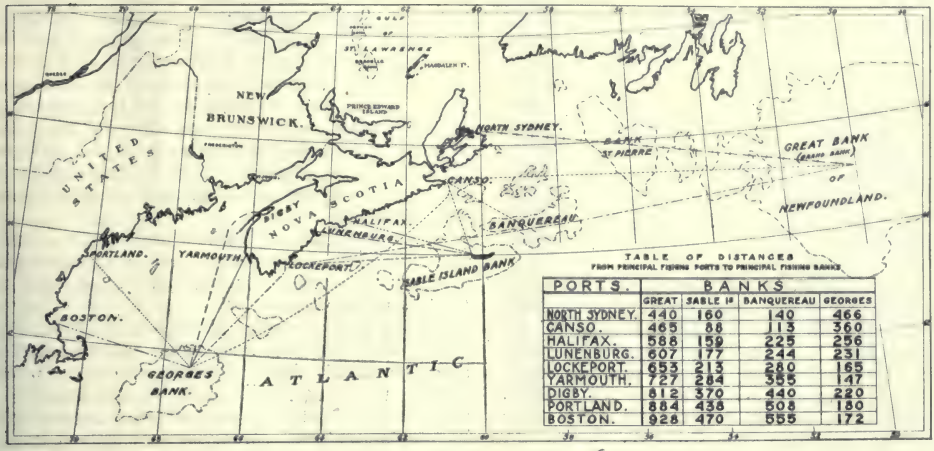


TABLE OF DISTANCES
FROM PRINCIPAL FISHING PORTS TO PRINCIPAL FISHING BANKS

PORTS.	BANKS			
	GREAT	SABLE I.	BANQUEREAU	GEORGES
NORTH SYDNEY.	440	160	140	466
CANSO.	465	88	113	360
HALIFAX.	588	159	225	256
LUNENBURG.	607	177	244	231
LOCKEPORT.	653	213	280	165
YARMOUTH.	727	284	355	147
DIGBY.	812	370	440	220
PORTLAND.	884	438	508	180
BOSTON.	928	470	555	172

REVIVES SEALING FROM PORTS OF NOVA SCOTIA.

The Eva June Arrives at Montevideo With Record Cargo of Pelts. — A Reminder of the Prosperous Days in the North Pacific.

The Halifax sailing vessel, Eva June, has arrived at Montevideo, after several months of seal hunting in the South Atlantic, according to word reaching her owners at Halifax. The vessel sailed from Halifax September 1, and did not make harbor again until she arrived at the South American port. She will make another trip to the sealing grounds, from which she will return to Halifax, arriving in June. The vessel is landing her record number of pelts at Montevideo, she reports. These will be shipped to England.

The Eva June is the only vessel which goes sealing from Nova Scotia now. In the latter years of the nineteenth century, Bluenose skippers took a fleet of two-stickers to the seal hunt from the province port. The vessels, 100 tons or thereabouts, plowed their way around Cape Horn and north to the Behring Sea, or across to Japan, and in the sealing grounds spread their hunting boats in fan shape from there. Each vessel carried about eight of these craft, and they were manned by two men each, a hunter and a steerer. The hunter carried a heavy double-barrelled gun. The South Atlantic replaced the Pacific grounds in favor in the early years of the twentieth century. The industry became less profitable, however, and in 1914, the last Nova Scotia vessel engaged in it discontinued the hunt. The Eva June revived the industry locally in 1920, and has operated profitably. She is commanded by Captain Matthew Ryan, of North Sydney, a veteran of the Pacific days. Nova Scotia and British Columbia pooled interests in the old sealing days and Bluenose vessels were a common sight in Victoria harbor.

A number of Nova Scotia skippers never returned to their homes from the hunt but settled in the British Columbia capital, and are to be found there yet.

FISHING RESULTS FOR JANUARY.

There were 305,004 cwts. of seafish valued at $729,083 landed on the Atlantic and Pacific Coasts of Canada during the month. During the same period last year there were 178,698 cwts. taken, with a value of $648,522, the value given in each instance being the value of the fish when first brought to land.

The increase was due almost entirely to large catches of herring and halibut on the Pacific Coast, the quantities landed of each being more than double that of the month of January, 1921.

On the Atlantic coast the catch of smelts was 36,911 cwts., compared with 27,272 cwts. in the same period last year.

The catch of lobsters was slightly less than January, 1921, being 584 cwts., compared with 752. The total landed since the commencement of the new season was 5,955 cwts., compared with 7,088 cwts. during the same period last season.

On the Pacific coast 16,252 cwts. of halibut and 197,398 cwts. of herring were landed, compared with 7,956 cwts. and 80,992 cwts., respectively, during January, 1921.

CANADIAN HADDOCKS SENT TO OLD COUNTRY ON EXPERIMENT.

Messrs. Charles Petrie & Son, Ltd., inform the Fish Trades Gazette, London, that they have received cabled advice that an experimental shipment of Canadian fresh haddock and Canadian fresh-cured smoked haddocks and fillets is due to arrive by the "Dighy" at Liverpool on February 23. The whole shipment will be in a fresh condition .

Sch. Hope Leslie, a famous old yacht, owned by the late William Minot, has been purchased by Lufkin &Tarr of Gloucester (Mass.) and will be used for general fishing purposes, gill netting, mackerel netting, seining, and swordfishing by the local firm.

Device Improves Steam Trawler's Efficiency

The trawl net used by the modern steam trawler is kept distended when in use by means of two heavy otter boards fixed at each side of the mouth of the net, and attached obliquely to the two warps by means of which the net is trawled. The Fishery Board for Scotland have for some time been watching certain experiments carried out in German waters with otter boards of a new form, and the results now reported to have been attained suggest that a substantial improvement has been effected in this type of fishing gear. The new boards, which are known as the Oertz patent trawl boards, are the invention of Dr. Oertz, of Hamburg, who is said to be a well-known aeroplane and windmill constructor.

It is now a well-known fact that such a structure as an aeroplane wing has a much greater lifting power if curved (in the direction of flight) than if flat. The "leading edge" of the plane is bent forward, so as to cut into the air with the least possible disturbance, while the rear portion is tapered off, inclined slightly downwards, so that the deflected air again leaves the "trailing edge" as smoothly as possible. The deflection of the air of course causes a reaction which produces the "lift." Owing to the elimination of eddy currents, this cambered plane, as it is called, is also more regular or stable in action. Dr. Oertz has endeavored to apply the principle of the camber to the otter board. At first the boards were made strictly on this principle, with a continuous curve throughout, but with a view to economy in construction, boards made of two flat pieces joined in a "knee bend," so as to approximate in plan to the curved boards, were subsequently tried, and were found to give almost the same result.

The preliminary investigations were carried out in an experimental tank, but thereafter full scale trials were made on fishing vessels at sea. The last of these, of which details are to hand, and that most likely to have a direct bearing on the Scottih fisheries, was carried out in the North Sea on October 5 last by means of the steam trawler Volker, which was lent by a German fishing company for the purpose. Various experts, including Dr. Oertz, were on board, and their observations were made independently and published separately. The boards were already known to be of a proper size in proportion to the net; and to be mounted at the correct angle, so that attention was concentrated on a comparison of the results obtained by the bent and the ordinary flat boards. Both are operated in exactly the same manner, and the same ground with a bottom of muddy sand was trawled over in each case.

The results of the various drags were made as follows:—

	I.	II.	III.	IV.	V.
Boards used	Flat	Flat	Bent	Bent	Bent.
Ground rope—feet	130	130	130	130	130
Head Line—feet	88	88	88	88	88
Maximum revolutions ..	123	80	123	80	60
Speed—knots	2.4	1.2	2.4	1.2	0.7
Angle between warps at vertex—degrees	7	7	9	9	—
Lengths of warps—fathoms	75	75	75	75	75
Opening obtained—feet ..	55	55	71	71	—

In the last experiment a good opening is said to have been obtained until the speed was reduced below 0.6 knot, when the boards collapsed, but they again came into operation when the speed was increased.

The principal point of the results is that with the same power a greater opening of the net is obtainable with the bent boards with no reduction in speed; so that in the particular case reported the fishing efficiency is increased presumably in the ratio 55.71 or by 29%. The opinion is further expressed that had the net been larger a still greater opening would have been obtained.

After the trials the Volker completed an eight day's trip, using the new boards, and a supplementary report by her captain has been published, of which the following is a translation:

"During the voyage from 6th to 14th October I fished with the knee-bent Oertz patent trawl boards, and accordingly feel at liberty to make a proper statement with regard to them as a specialist. When we put the boards over and steamed ahead the boards at once swam free. After we had heaved in the light running line with the ship's tackle, the greater sheering power of the bent boards as compared with the ordinary was very apparent, so that it could be determined at once without further measurement. During fishing I have also found that while, on account of wind and sea, the warps to ordinary boards worked very irregulary, the warps in fishing with the bent boards remained steady. I have fished the same ground off Horns Reef with the ordinary, and also with the bent boards, and obtained with the latter from one to several cwts. more per drag than with the former. I found also that with the bent boards not so much mud, etc., came into the net as with the ordinary. A few skippers were deceived by this, and said that if the boards did not bite in so deeply, then fewer flat fish would be taken, and I therefore wish to state that on the contrary I have taken quite as many flat fish with the bent boards. Thus on the voyage referred to, I had 21 cwts. of soles, 15 cwts. of turbot, and a few cwts. of brill, in addition to plaice and round fish. For the whole voyage the catch was 30,000 lbs. The trawler Dankwart, of the same company, a sister ship to the Volker, with which I fished for a few days, tore her net several times, while I fished clear, which I attribute to the fact that through the greater side sheer of the bent boards the ground rope is more taut, not lying in such a slack loop on the ground as with the ordinary boards, and thus passes more lightly over obstacles such as stones, etc. In my opinion the Oertz patent trawl boards are a great improvement, and I do not think I shall ever go back from using them."

ATLANTIC-PACIFIC VIA WATER.

An experimental shipment of two hundred tons of frozen fish, the first to go from British Columbia to the Atlantic Coast by water, left Vancouver on the steamer Neponset for New York, via the Panama Canal, Friday, Feb. 3. Should the shipment arrive in good condition, it is probable that much of the all rail fish traffic from British Columbia to the east will be diverted to this route.

Canso's Fish Business For 1921

—CECIL BOYD—

The Canso fishing year naturally takes after the Church year, the national fiscal year, and the business years of many concerns in that it doesn't coincide with the twelve-month as laid off on the Calendar. It comes easier and fits in more with the facts, to consider the end of the fishing year in this district as coming with the winding-up of the winter haddocking, which usually takes place about the middle of,or a little later in January, that is so far as the shore boat fleet is concerned. After this, there is nothing doing in an active way, for a couple of months, with the exception of steam trawler operations, which at present are confined to one, the Rayond,Or. So, to begin at the beginning, we shal have to start off with the month of April, so far as active operations in 1921 are concerned. The reader must not run away with the idea, however, that during the "off" period coming in between the latter part of January and the month of April, the men who man the shore fishing fleet are altogether idle in fishing matters. On the contrary, they find a great deal of work of a preparatory nature requiring attention at their hands. There are many things, and in most cases, much gear, to be put in shape for the working season ahead.

Any reliable record of the past year's work must, with however much regret, place it in the "lean" column; it certainly has leaned decidely in that direction. To start off with, the lobster fishing, which opened April 20 and closed June 20, was one of the poorest in financial results to the catchers for many years, and contrasted sharply with the preceding spring, when the tiptop prices paid made this branch a very profitable one to the producer. The success attending it in 1920 was doubtless the direct cause of such an added number of fishermen fitting up for it in 1921. It is commonly said that "you can't tell the mind of a squid".

Well, to the average man, even though he be a fisherman of many years'standing, the mind of the fish market is quite as much of a mystery, and the experience of one season in the matter of prices is not at all a sure guide to the performance of the next. The quantity of these tasty shellfish around our coastal waters is of a limited character ata best, and so, with an increased number of fishermen engaged, the price ruling not much more than one-third of the preceding season, and the total catch quite a bit smaller, it was not strange that individual proceeds made a poor shoing in comparison. The one favorable feature was the entire absence of any destructive storms, in spite of the fact that Easterly winds were very prevalent. Consequently, there were no losses of gear, which will be an advantage to the fishermen when fitting up for the season coming.

The disastrous depression in the fish markets of the world which developed since the close of the war, probably reached its lowest level last summer, and inevitably reacted on the local industry. The low prices for the hard won product received by the fishermen, with the high price of bait and gear, and the high cost of living, neither of which had lowered to any appreciable extent at that time, and to make matters worse, the prevalence of windy weather, all combined to make the pickings for the summer of very slim proportions.

Thrills of Swordfishing.

The swordfishing, which is a sort of profitable midsummer division in the fishing routine, combining as it does spoirt with moneymaking, worked out fairly well on the average, though there were a few who failed to find them. Quite a number of craft from western points in the province and also from American ports, fished for a time off here, while on the trail of the schools. Our own big boats, and those from Dover, Whitehead, and other ports along the coast, after operating for a time off the home shore, followed the frisky fellows on to Cape Breton shore waters, making their headquarters at Louisburg and landing most of their fares there.

We have spoken of swordfishing as combining sport with profit, for the swordfish, at his home in the sea, for all his bulk, is as sportive and gamesome as a salmon, and sometimes when hard drivetn and harried throws in a thrill to his pursuers for good measure. The schooner Dorothy Earl, fishing out of this port last summer, had some exciting experiences of this sort. While out on the trail of the swords one day, they encountered a scrappy school, and brought convincing evidence back with them to back up their story. The writer of this article was taken down in the fo'castle, and saw with his own eyes ten inches of the end of a sword projecting through the side of the schooner, near the bow. This was ten inches clear of the woodwork of the vessel's frame, (which was 5 inches in thickness, and half hardwood), through which it had been driven. The fish had been stuck as usual, but instead of making off away from the vessel, turned directly back in its track, and charged straight for the craft, with such force that it penetrated the frame as described, and broke off its formidable weapon in the struggle that followed. It was only about a 190-lb fellow at that, so the men said, and that would be merely a bantam-weight among the tribe, as an average one will go 300 or more. The same trip, one of the crew of this schooner, an old and thoroughly seasoned salt, while out in a dory following up a fish that had been ironed, got more genuine thrills injected into him than can be obtained from the thrilliest screen serial ever released, when Mr. Fish, after diving, came up right beneath the dory, and very impolitely and thoughtlessly thrust his sword through its bottom. So the swordfish has good claims to be considered something of a dramatic actor, as well as a game sport.

The mackerel and other net fishing, both spring and fall, thtough a few fair hauls were made, was on the whole nothing to write enthusiastically home about. As a matter of fact, however, it is only a small minority of the fishing population tthat go in for netting and trapping to any extent.

The fall and winter haddocking, after the miserable showing of the spring and summer operations, was looked forward to as the one remaining asset to redeem the situation, as it is normally one of the most profitable periods of the year; but alas for fond hopes in the uncertain round of the shore fishermen's occu-

pation. As too often in the past, they were handed out a raw deal, and the Weatherman had a lot to do with it. During the fall and winter months, whenever they could get a good day on the grounds, fish seemed plentiful; but to get a decent day at all was like snatching bones from a pack of snarling dogs. Changeable rough weather; wind, high winds, from this quarter, and gales from that, was the program, week after week. A week that permitted more than one day's fishing came to be considered a kindly one. One spell, there were no boats out for over two weeks. We were told by some of the old citizen-fishermen that the fall and finishing months of 1921 beat the record for wind, as far back as they could reliably recall. One week in December three good days in succession were obtained, and this was the cream of the catch. With New Year's came the big blizzard, a real record-breaker, particularly for so very early in the winter, and this help up the boat fleet, and filled the water with snow, which, it is thought by fishermen observers, must have had the effect of hurrying the haddock schools onward, for in spite of the fact that a spell of exceedingly mild and fine weather followed the big storm, scarcely any fish could be found offshore, when the fleet got out again. So that the laying up of the shore boats was earlier this year than for a good many previous ones, the final fishing of any account being towards the end of December. Boat fishermen have now stripped their craft, and "finis" has been written to the operations of the year, so far as they are concerned.

Steam trawling operations out of this port during the year have been confined to one boat, the Rayond'-Or, owned by the Maritime Fish Corporation. When the market became so demoralized through falling prices, she was laid up in April, at the Company's Wharf here, and did not resume operations until the first of September. After a trip to Halifax late in August for overhauling and repairs, she went out on the Banks, under command of Capt. Magnusson, a very young and energetic captain, and resumed her weekly landings, which have continued since, and so far as known, will continue through the winter.

The various fish-buying concerns have apparently pulled through the year in good shape. While none have branched ont extensively, some additions and improvements have been noted, among these being a large and convenient fish store, and a smokehouse completed by A.W.Fader. It was thought at one time that the Portland Packing Company might close their branch here, but this turned out to be a false alarm. This firm, which has been doing business at Canso, principally in lobsters, since 1882, when they bought ont the late Alfred Ogden's lobster cannery, will continue to operate, Mr. E.P.White of this town, and son of a former local manager, being in charge, since the New Year.

SMALL FRENCH FLEET THIS YEAR.

The fishing fleet at St. Pierre the coming season will be quite small in comparison to that of 1921. Last season there were 32 French trawlers engaged there. They caught about 300,000 quintals at a value of 80 to 90 francs per quintal, which was only half the price of 1920. The shore fishery was too poor in 1921, and averaged only 140 quintals per dory. The big Cold Storage Plant erected by the French Government at a cost of ten million francs is still idle. —Trade Review.

A KIPPERING MACHINE.

Invention Demonstrated at Aberdeen Attracts Widespread Attention and May Revolutionize Curing Business.

A demonstration and test of a novel machine in the fish-curing industry has just been completed in Aberdeen. It lasted over an entire week, and was an object of deep interest to the industry, few of whose members failed to put in an appearance on one or other of the available days.

The machine is the invention of Messrs. Truslove & Co., marine and general engeneers, Colchester, and was designed for the facilitating of the process of herring splitting for the kippering trade. It was housed in the premises of Messrs. Davidson, Ltd., Deeside Curing Works, where commodious and excellent arrangements were made for the exhibition.

During the week the ingenious nature of the labour-saving appliance was the subject of extremely favourable comment. The chief feature of the machine, which is driven by a ¾-h.p. engine, is an endless chain, on which aluminium hinged pockets are arranged at set intervals. The chain drives through what are known as "rubbing strips," clutches which seize the aluminium pockets as they move along. In the pockets the fish are placed, and when the "rubbing" device closes upon them the fish is automatically compressed, and a revolving knife, swinging at high speed, sweeps along, splitting the fish cleanly from head to tail. The split herring then passes over the top end of the chain and drops into a tray ready for cleaning.

The manufacturers had claimed that the machine could do the work of several hand herring splitters in half the time, that it could be worked by inexperienced hands, and that no fish were spoiled in the process. All these claims were more than fully borne out. In a test of several crans of herrings it was found that the machine did the work of more than six hand splitters, accounting for almost 3,000 herrings per hour, at a cost, so far as the running of the machinery was concerned, of something like 1d. an hour. The fish were beautifully split, the invention easily handled, and all sizes proved equally readily adjustable to the mechanical grip of the "rubbing strip."

There could be no doubt as to the efficiency of the machine in the splitting process, and on all hands compliments were paid it by the representatives of the fish-curing industry, many of whom pointed out that, even were its cost equal to that of the old hand process,its economic value was established by the fact that on West and North Coast stations especially, where the railing of large numbers of girls to the scene of operations, and the securing of lodgings and comforts for them, were too troublesome and costly, big expenses would be avoided.

It is understood that the inventors,as the result of the test and demonstration in Aberdeen, have in view further developments and improvements which will render the machine even more successful in all the processes of kippering—with special attention to cleaning—improvements which will undoubtedly find for the invention an indisputable footing in the yards of every up-to-date kipperer. Messrs. Truslove's enterprise has found a ready and hearty encouragement in Aberdeen.—Fish Trades Gazette.—

Delegation Makes Plea to Minister

Fishing Interests tell Hon. M. Lapointe how separate department may be set up without extra cost.

A delegation representing both the Atlantic and the Pacific coasts, and having the support of freshwater fishermen as well, appeared before the Minister of Marine and Fisheries at Ottawa on February 23 and presented reasons why a separate department should be established to administer our Canadian fisheries. The Hon. Mr. Lapointe, who had with him Alex. Johnson, deputy minister of Marine and Fisheries, and W. A. Found, assistant deputy minister of fisheries, received the party most courteously and promised to give the matter his attention at a very early date.

Members of the delegation included J. A. Paulhus, vice-president of the Canadian Fisheries Association, D. J. Byrne, A. H. Brittain, all of Montreal, the Hon. Alex. Manson, attorney-general of British Columbia, F. E. Burke, president B. C. Salmon Canners' Association, Olaf Hanson and J. N. Sinclair of Prince Rupert, and James H. Conlon, national secretary of the Canadian Fisheries Association. The case was very ably presented by the speakers. Two points were made quite clear to the minister; first, that the delegation was representative of the entire industry, which employs no less than two hundred thousand people in all departments of the trade; and second, that the industry was in entire accord in making the request for a fisheries department. It was pointed out that industrial and commercial organizations in all parts of the country had requested the Prime Minister to introduce the reform, and that the total membership represented in all these bodies would be much disappointed if the modest request were refused. Means were pointed out of setting up the department and at the same time not increasing fisheries appropriation a single cent. Naturally therefore, when the delegation parted with the minister it felt that it had established a thorough, well-connected and forceful case. The industry wanted it, considered it essential to its progress, and pointed out how it could be done without extra expense. The members felt that it would be difficult to present any logical excuse for not acceding to the request.

On the morning preceding the visit to the minister, the members of the cabinet received a deputation from the Canadian Manufacturers' Association, and members of that group took occasion to mention the fact that a fisheries delegation was meeting the Hon. Mr. Lapointe in the afternoon and that the matter to be brought up received the complete support and endorsation of the Canadian Manufacturers' Association.

The individual members of the fisheries delegation were introduced to the minister by D. J. Byrne of Montreal. J. A. Paulhus, vice-president of the association, was the first to speak, addressing the minister in French. He splendidly illustrated the handicaps under which the industry was laboring and pointed out progressive measures that were required to enable the fishing industry to reach its proper stage of development. Two hundred thousand Canadians were dependent upon the industry for a livelihood, and every section and community of the trade felt that the future depended upon the setting up of a separate fisheries department. He felt that this was the fulcrum upon which the commercial industry could place their lever to elevate Canada to the foremost rank of fish-producing nations. Incidentally, Mr. Paulhus referred to the lack of attention ministers of the past had given to fisheries matters, and he trusted that the legitimate requests of the industry would not find their way to the waste paper basket, which was too often the case heretofore.

F. E. Burke, of Vancouver, was frank in stating the attitude of the trade on the Pacific coast. Even with a deputy minister of fisheries, the contact with the Pacific coast was not close enough; but with the present arrangement he felt it was entirely too loose to give effective and satisfactory service.

The Hon. Mr. Manson followed Mr. Burke and briefly endorsed the views previously expressed. He thought the request was a very modest one, and considering the widespread demand he felt the minister should realize there must be some very good reason for wanting a separate department.

No extra appropriation needed.

Mr. Brittain took up the practical side of the case, pointing out where it was possible to create a separate department, give a more efficient administration and satisfy and encourage the trade without incurring additional expense. In part, Mr. Brittain spoke as follows:

"What we are asking is that the administrative head of the fisheries department be a man whose sole interest is in the fisheries. You are aware, sir, of how the present system works out in practice. The practical head of the fisheries administration has no access to the minister. However the minister may be disposed, etiquette and custom do not permit of this direct intercourse. Matters must be discussed through the deputy head of really another department, and you can understand how a case loses color and effect by traveling this course.

"Assuming, sir, that this government is pursuing a policy of strict economy and would be loath to incur additional expense by creating a separate fisheries department, we would have this to say: We are in agreement with the government that at this time economy is absolutely essential, but it is difficult to draw the line where economy ends and waste begins. If the efficiency of fisheries administration is to be sacrificed and the progress of the industry hampered, would it be an economy to refuse an additional expenditure of a few paltry dollars? I think not. But should the government have decided upon a strict rule, we are in a position to show you where the money may be obtained without increasing fisheries appropriation a single dollar.

"In the first place, the whole machinery for the proper administration of the fisheries department is already functioning, and it only remains to place the whole authority in the hands of the fisheries officers. Certain officers must necessarily advance in rank and

receive increased remuneration, but such natural increases would not exceed $7,000 or $8,000 per annum.

"The policy which the government had adopted in turning over certain fishery rights to the province of Quebec will occasion, we understand, a saving of some fifty thousand dollars annually, due in large measure to the fact that the expensive operation of the "Loos" will be dispensed with. Furthermore, if the fisheries protection vessels, which are now under the control of the Naval Service Department, were made a part of the fisheries fleet, the fisheries protection service and the fisheries patrol service could be combined, making a reduction in the aggregate cost which should permanently care for the increases involved in creating a separate department and leave much to the good besides.

"These suggestions are made to you, sir, as practical means of providing the wherewithal to take care of the trifling expense which would result from granting our reques'. We feel certain that you appreciate the advantage of having a separate department. As representatives of the Canadian Fisheries Association we have been urging the matter for several years. It is patent we have no axe to grind nor any individual advantage to gain. We are interested entirely in the industry. The Prime Minister, the Hon. Mr. King, has received messages from all parts of the country—from fisheries associations, boards of trade, chambers of commerce, and from various branches of the Canadian Manufacturers' Association. The urgent tone of these messages and the multitude of sources from which they have come should serve as an indication of the general feeling of the people. This administrative reform, we assure you, is considered by the trade to be absolutely essential to the future progress of the Canadian fisheries. And denied this small concession we feel that we shall be laboring under a handicap which may seriously hamper us in all branches of the business.

"We trust, sir, that you will give immediate consideration to this matter. No doubt you have many problems confronting you at this time. This, from our standpoint, is of the utmost importance, and we shall be sadly disappointed if this coming session of parliament passes without some legislative action being taken to meet our very modest wishes."

Mr. Byrne effectively concluded the presentation of the case, summing up the arguments and supplementing a few strong points. He thanked the minister for the courteous and attentive hearing, and trusted that the nation-wide plea for this attention to fisheries had not fallen upon unsympathetic ears.

Since the meeting with the minister, the national secretary has been urged from various quarters for information as to the success achieved. The fact of their deep interest and impatience for an early declaration was communicated to the Hon. Mr. Lapointe, and there seems reason for confidence that he will give the matter prompt and earnest consideration.

STRAY COMMENTS.

A delegation from the province of British Columbia recently appeared before the government at Ottawa and asked among other things that an export tax be levied on all species of British Columbia salmon, "except in a frozen, canned, salted, smoked or cured condition, or fresh salmon shipped in ice and contained in boxes weighing 200 pounds or less net weight and designed for fresh consumption only." Briefly, the Pacific folk do not want their raw salmon exported to the United States to be processed and manufactured there. If there is a demand for our western product in the canned or cured state, they take the justifiable attitude that all profit accuring from the trade should go to British Columbia. It just occurs to us that the people of New Brunswick might give a little bit of attention to the quantity of young herring shipped each year to our southern cousins to be manufactured. Does not the argument of British Columbia apply there as well?

In addition to an export tax on raw salmon, the British Columbia delegation which, incidentally, was headed by Premier Oliver, reiterated a request that the fisheries of the Pacific province be administered by a complete and generally independent unit of organization to obviate troubles that have arisen through having the central organization at Ottawa, nearly two thousand miles away.

In connection with the sealing of Canadian frozen salmon in Great Britain, a correspondent to the Fishing News of Aberdeen writes a very pertinent letter. In the first place, he points out that there is no legal authority for the regulation. The law merely demands that a dealer having salmon in his possession during the closed season must prove that he secured it legitimately or suffer a penalty. The sealing regulation is imposed by Fishmongers' Hall, and was designed originally to free traders from the onus of responsibility. Recently the sealing regulation has been lifted on Pacific salmon, but it still applies to Canadian Atlantic salmon. The writer asks why this barrier to trade should be placed against his cousins in Canada, while there is no such restriction on Danish salmon, which is, if anything, a bit closer related to the British species than is the Canadian Atlantic fish. —And we, too, ask why.

The Honorary and Advisory Council for Industrial and Scientific Research recently advocated to the government the need of a Canadian Research Institute similar to those established in other countries. We heartily agree that this is necessary. What we should like to see in our industry, however, in the first place, is a closer union between the fisheries administration, the Biological Board and other scientific branches, and the commercial industry. Science and commerce are more or less as Longfellow said about man and woman — useless each without the other. Science needs close contact with commerce and industry to insure that its investigations and researches are of practical value, and commerce and industry need science to promote development, improve efficiency, overcome waste, and for a hundred and one other reasons.

PACIFIC COAST SECTION

New Wrinkles for Fish Day.

Much credit for the public enthusiasm over National Fish Day in Vancouver is attributable to Frank E. Payson, who was chairman of the Fish Day Committee. He worked indefatigably. The work of his commitee began some time before Friday 1. The work of its members first began to show by the news notices appearing in the daily papers, and these were kept up right up to Fish Day. Street-car banners appeared on the street cars four days previous to Fish Day and stayed on the cars continuously. The provincial government had special slides prepared to be shown in moving picture theatres for five days previous to the event. Speeches were made at public service organizations; all retail grocers, butchers and fish shops were circularized; transportation companies were asked to serve special fish menus, and hotels and restaurants were also asked to do this. Delivery trucks and stores were supplied with banners and posters. An innovation was sprung this year when three men were outfitted in yellow oilskins with a black sou'wester on their head and an oar over their shoulder, and a banner attached telling about Canada's National Fish Day. They paraded up and down the principal business streets. This attracted a lot of comment and will no doubt be a part of the future celebrations. By the time February 1 arrived, every one in Vancouver and in fact all over the province was pretty well posted on why they should eat fish on February 1. Prince Rupert put over a fine celebration in that city. New Westminster did some special work, as the Kiwannis Club in that city were holding a fair and they helped out on fish day.

There were several original and interesting displays of both fresh and canned fish by Vancouver merchants on Canada's National Fish Day.

The prizes donated by the British Columbia Salmon Canners Association were awarded as follows:

First prize $25. Merritt & Beeton, 2350-4th Ave., West.
Second prize $15. A. & C. Grocery, 530 Granville St.,
Third prize $10. J. W. McTaggart & Son, Ltd., Cor. Howe & Robson Sts.

The two prizes awarded by the Canadian Fisheries Association, Vancouver branch, were won by the following:

First prize $25. P. Bunrs & Co., Ltd., Granville Mkt. 819 Granville St.,
Second prize $15. P. Burns & Co., Ltd., Mainland Mkt. 16 Hastings St., West.

MIGHT MEAN CHANGE TO A CANADIAN REGISTER.

Should the proposed amendment to the U. S. tariff, whereby American fishing boats must land their fish at an American port for shipment, go into effect, there is strong talk of American boats altering their registration to Canadian register. It is not sure that this amendment will go into effect, but if it should the matter of altering registration is being discussed and with a very good reason for it. The halibut fishermen now operating jout of Prince Rupert and Ketchikan, Alaska, can deliver their catches at Prince Rupert and they may be shipped in bond to points into the United States; should the suggested amendment go into effect, all these fish would have to be shipped from Ketchikan by ferry to Prince Rupert and then transferred to the refrigerator cars at that point or else be shipped to Seattle, re-boxed iced, and culled at that point, then shipped east. Such a move on the part of the authorities at Washington does not assist more than two or three interests and the greatest number interested in the fishing would be the fishermen. Those that would benefit would be possibly the cold-storage firm at Ketchikan and the transportation companies, much of the supplies now being purchased at Ketchikan by the fishermen, even though they do land their catch at Prince Rupert.

MAY WORK BOTH WAYS.

Should the proposed tax of 3c. per pound on Canadian fish shipped into the U. S. go into effect, it has been suggested that the Canadian tax on U. S. fish be increased from 1c. per pound to 3c. per pound.

Those interested in the industry on both coasts are watching with interest the tinkering with the tariff.

District No. 2, British Columbia Has New Closed Season Regulations.

In the interests of conservation the Dominion Fisheries Department recently issued new regulations extending the weekly closed periods for sockeye salmon gill-net fishing in District No. 2 as follows:

Naass River.— The weekly closed period for sockeye fishing is to be extended six hours and if the number of gill-net licenses issued exceeds 350, an additional six hours are to be added, making a total additional period of twelve hours.

Skeena River. — The sockeye weekly closed season is to be extended 6 hours, and a further 6 hours added if the number of salmon gill-net licenses for the district exceeds 1100.

Dean Channel. — The weekly closed period for sockeye fishing is to be extended 6 hours, and if the number of gill-net licenses issued exceeds 100, an additional 6 hours are to be added.

Burke Channel. — The weekly closed period for sockeye fishing is to be extended 6 hours, and if the number of gill-net licenses issued exceeds 150, an additional 6 hours are to be added.

Fitzhugh Sound — The weekly closed period for sockeye fishing is to be extended 6 hours, and if the number of gill-net licenses issued exceeds 140, an additional 6 hours are to be added.

Rivers Inlet. — Six additional hours are to be added to the sockeye weekly closed period for this area, and if the number of salmon gill-net licenses issued exceeds 1000, an additional 6 hours are to be added immediately.

Smith's Inlet. — Six additional hours are to be added to the sockeye weekly closed period for this area, and if the number of salmon gill-net licenses issed exceeds 215, an additional 6 hours are to be added immediately.

It is the intention that the 6 hours additional are to be enforced from the first of the sockeye fishing, no matter how many licenses are issued.

In the event of the 6 hours only being added, which would make a total of 48 hours weekly closed period, such will commence at 6 P.M. Friday and continue up to 6 P. M. Sunday. In the event of the closed period

being 54 hours, such period will commence at noon on Friday and continue to 6 P. M. on Sunday.

GRAYFISH LICENSES NOT LIMITED IN BRITISH COLUMBIA.

With the idea of assisting in the elimination of the grayfish in British Columbia waters, the Dominion Department of Fisheries has issued instructions that the 1919 limit of licenses as applying to other than white British subjects will not apply in the case of licenses for the purpose of taking grayfish.

JAPS CUT HEAVILY INTO SALMON TRADE.

American and British Columbia salmon canners are feeling the result of Japanese competition, according to the figures recently published on imports by Great Britain in 1920:—Sweden, 81 cwt.; Norway, 102 cwt.; Germany, 87 cwt.; Belgium, 1675 cwt.; France, 8473 cwt.; Portugal, 498 cwt.; Spain, 24 cwt.; Italy, 1484 cwt.; China, 873 cwt.; Japan, 354,248 cwt.; United States of America, 325,455 cwt.; Channel Islands, 1 cwt.; Malta and Gozo, 50 cwt.; Dominion of Canada, 156,638 cwt.; Newfoundland and Labrador, 225 cwt. Total, 849, 944 cwt.

There were 849,944 cwt. at 112 pounds, or 95 193,728 pounds; an average of 76 pounds per case equals 1, 252,549 cases. Canadian imports were 156,638 cwt., or 17,543,456 pounds or 230,835 cases, which equals 18.4 per cent of the total imports.

Imports of canned fish from Japan, on a basis of 76 pounds to the case, would be 322,070 cases, or 42 per cent.

Imports from the United States were on a basis of 76 pounds to the case, being equal to 479,618 cases, or 31 per cent.

LABRADOR FISH AND ICELANDIC "STYLE" ON THE ITALIAN MARKET.

I recently referred to a report by the Norwegian Consul-General at Genoa on this subject. With regard to the assortment and packing, it is said that the fish both from Newfoundland and from Iceland come loose, "in bulk," in the hold, without being made into bundles, and thus all sizes and qualities together; it is only exceptionally that they are in bundles. The French "Lavè," on the other hand, come in bales, though not stitched up in linen but in straw mats. The fish from Newfoundland comprises very little large fish (difficult to sell in Italy), only some 5 to 10 per cent. of the total weight. The vessels from Iceland carry large fish, but it is always landed in Spain—its proper market—on the way out. It is the smaller fish that are suitable for "Labrador style." On arrival at Genoa the fish are sorted out according to the wish of the importer and are made into bales sewed up in linen; they are weighed after packing, and are usually between 50 and 60 kilos. each. Both the true Labrador and the Icelandic "style" are assorted as follows for the Italian market: (1) large fish (Newfoundland only); (2) medium fish, called "mezzano," 45 to 50 centimetres (16-18 inches); (3) small fish, called "Regolarge"; (4) hand fish (**Haandfisk**, so called in Iceland) or "Piccolissimo"; (5) second grade fish, somewhat dark; (6) tertia fish, tainted or damaged. KLIPFISK in Fish Trades Gazette.

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(Continued from page 47)

in Denmark, valued at over £224,000; last year (when the fishery in Denmark, as elsewhere, was not so productive), the number was 4986, and the value £183,000. In 1913 there were only 3704 of such nets, which shows how greatly this method of fishing has expanded in recent years. Denmark has never had a steam trawl fishery as most of its neighbours have had for many years. The **snurrevaad** has taken the place of the trawl, and indeed might be called appropriately the Danish trawl, for its action is much more that of a trawl than of an ordinary seine.

That it is a fishing apparatus which may successfully compete with the trawl has been well proved by the experiences of last year. Barred from the German markets by the enormous fall in the value of the mark and high railway rates, the Danes began to develop their connections with the markets in England, sending thither larger and larger quantities of fish. At first these went by the ordinary steamer routes from Esbjerg, but later, in order to save freights, the cutters began to run with their catches direct to England. The fish were appreciated from their excellent quality, and as they came on bare markets - it was at the time of the great coal strike which tied up the steam trawlers - the business was very profitable.

Then another step was taken. The cutters began to fish from English ports, and in this way they gave a practical demonstration, both to the owners of steam trawlers and to trawl fishermen, of the value of the method. The fishermen naturally resented this "poaching" on their preserves, and did all they could to put a stop to it. The trawler-owners, however, recognized the importance of the system and saw how much more profitable it was than steam trawling.

Cheaper and More Efficient.

The cost of a completely equipped cutter is said to be about one-tenth of the cost of a steam trawler; the cutter requires only four hands (one looks after the engine, but helps otherwise), and can be worked at one-third the expense; it captures as much fish as a steam trawler in the same time, and not infrequently more, and the fish bring a better price, as they are not so much knocked about and are landed sooner. Not only have several owners arranged to procure Danish cutters and seine-nets, but many small trawlers and steam herring drifters have been fitted out with the Danish gear and winches, and have been making profitable fishing. The system has, however, some disadvantages compared to steam trawling. The nets are much lighter and there is no great "ground-rope" as in the trawls, which enables the trawlers to work on comparatively rough ground, for which the seine is not suited. Then in bad weather, as in most of the winter, the motor-cutter is a poor substitute for the powerful steam vessel. Nevertheless, now that neighboring nations have found out the virtues of the Danish gear, they are rapidly adopting it. Holland, Norway, Sweden and Germany all now have numbers of motor craft pursuing this method of fishing.

It is well worth trying it in Canada where conditions are suitable. Any one wishing information as to where the gear can be procured, the costs, etc, should apply to Mr. F. V. Mortensen, Director of Fisheries, Copenhagen, who will be able to furnish names and addresses.

FINISH THE JOB AT HOME.

Apropos of our editorial reference to the processing of raw fish instead of exporting it for manufacture elsewhere, we note that H.R.Silver, a prominent Halifax fish exporter, made appropriate reference to the point in adressing the Commerce Society of Dalhousie University recently. We reproduce a few extracts touching upon this question, and also another very live issue—exporting on consignment.

"I have referred to the bulk of the exports from Nova Scotia as being either raw materials or semi-manufactured products, and it is unfortunate that this continues to be the case; for until we have learned to convert our raw materials into the highest form of finished product, we will not have done our full duty. Why should we export pulp wood in the form of logs as they come from the forest, instead of converting them into proper products, and thus distribute the cost of manufacturing among our own people; or why should we export spruce deals instead of box shook or finished building material, birch deals instead of furniture stock, coal and steel ingots instead of the thousand and one articles of hardware necessary to the daily existence of very civilized community throughout the world, which is not so favorably situated as we are for their economical production, and then use our coal to manufacture more steel. I ask you to let our mind rest on this for a moment and realize whaat it would mean to Nova Scotia.

"The list might be extended almost indefinitely, but these few items will demonstrate what I mean and, until we have developed this principle to the utmost limit in our export business , we will not have fulfilled our duty to ourselves or to our country, which is so wonderfully blessed with a great variety of natural products ready at hand for the benefit of ourselves and the rest of mankind.

"One of the first principles in building up an export business is that all goods should be sold before shipment and proper financial arrangements made for the payment of them by the foreign buyer.

"When goods are shipped to a foreign agent on consignment, that is, to be sold by him for the account of the shipper, the shipper is practically powerless to prevent a loss on the transaction.

"The prime essential in any export business is to ship the buyer exactly what he wants, and many good accounts have been lost by lack of attention to this important point. You as a shipper may think that when a buyer orders two cheeses of 25 lbs. each, it is the safe thing if you send him one weighting 50 lbs; or if he orders a few casks of medium sized fish and you do not happen to have anything but small and large fish that you can mix them in the casks and it will amount to the same thing; but it does not, and you cannot get away with it. There are good reasons why he orders the 25 lbs. cheese and the medium sized fish, and he won't accept anything else. It must also be borne in mind that, if you do not ship your buyer what he wants, some one else will and you not only lose a customer but most probably will have the goods refused and thrown back on your hands in a foreign market, which always means a loss."

AERIAL SEAL HUNTING.

The Martinside airplane, with which Major Cotton planned to make an aerial mail trip to Halifax, N. S., will be used this spring in connection with the seal hunt. She will act as a scout, reporting the location of the seal patches to the steamers engaged in the hunt.



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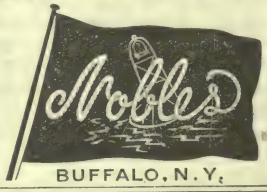
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THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association

VOL. IX | GARDENVALE, P. Q., APRIL 1922 | No. 4

ONTARIO FISHERIES RESEARCH LAB

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"THE HOUSE OF QUALITY AND SERVICE"

EDITORIAL

JAMES H. CONLON, Editor

FISH 'PROPERLY' TARIFFED

The McCumber tariff measure recently presented to the U. S. senate is even a bit more violent than the Fordney proposal of a year ago, and we are pleased at the advice that it is due for a strenuous razz in the senate. We hear from Ottawa that it is considered by the Canadian 'Powers-that-be' as merely a political move to placate the agricultural party at Washington which has recently developed a pronounced spirit of independence. A congressional election is due soon and it may be that the Republicans are extending an inducement to prevent an out-and-out autonomy of the agricultural bloc. We truly hope the authorities at Washington are not in earnest. If it's just a hoax let the truth be sprung quickly as recent industrial and business depression has made us a bit high strung.

Whatever happens it appears altogether likely that our fish business is to be 'properly tariffed'. We can hardly hope for conditions as favorable to Canadian fish imports as those which have been maintained since 1913. Those in the trade are familiar with the terms of the Fordney proposal, but the details of the McCumber mountain-wall have not yet arrived. Press reports indicate, however, that, whereas Fordney was content with a one-cent tax on all fish fresh, frozen or packed in ice, McCumber demands two cents a pound on halibut, salmon and swordfish and one cent on all others. Press reports do not furnish sufficient detail to indicate the extent of alterations in other particulars but sufficient evidence is given to justify the statement that there are few, if any, ameliorations.

As we have already said, the whole thing may be a hoax, but the perpetrator, in our opinion, has a poor conception of humor. We have heard of men performing highway robbery stunts for a hoax but that sort of horseplay is altogether too vigorous for nervous individuals. We learn, too, that the McCumber bill empowers the president to increase the tariffs as much as fifty per cent at will. It looks as though our best move is to take turns shipping boxes of fish of epicurean quality to said president. The Frank E. Davis Co. of Gloucester has established the precedent. If we flood him with fish he may eventually consider it the better part of valor to have no tariff-monkeying with our fish at all.

But, getting serious, it looks as though we are in for it. Undoubtedly there will be a smaller quantity of fish sold to the states if these tariffs are introduced,—at least, for a time. About fifty percent of our exported fish commodities have gone to Uncle Sam. Will they continue to go as soon as the readjustment is effected? That is the question. Some hold the view that our fish is required by the United States consumer, and if that is so they will buy just the same and pay the tax. Others hold that American fish producers will accelerate production and meet the entire demand. We know the latter is impossible. For instance they have not got the production of fresh water fish and they must look to our sources of supply. Whether it applies to salt water production, too, is a horse of another color and we doubt if anyone can definitely answer the question.

But we Canadians are not the people to lose heart. We have the most productive and most valuable fisheries in the world. If Uncle Sam doesn't want to buy fish from us, someone else will. We have no right to complain of any U. S. fiscal policy. It's their business. Nor have we any justification to feel offended. But we will do our damnedest to make up our loosess, if there are any, in other marts of the world.

SHOULD STUDY COMPETITORS' METHODS

On reading J. J. Cowie's pamphlet on the dried cod fish trade issued recently by the Department of Marine and Fisheries we were forcibly struck with the evidently great need for something being done to ensure the production in Canada of a product of high quality in order that we may keep pace with our competitors in foreign markets.

As Mr. Cowie truly points out the consumption of dried fish in large quantities is confined to a few countries to which, broadly speaking, all producing countries ship their product. And it is equally true that the largest share of the business and the highest prices go to those who produce fish of the most dependable size, grade and quality. It is not surprising, therefore, to find that the Norwegian government is bringing into force on the first of May this year a law which provides for standardizing dried fish by a system of compulsory official sorting or grading. This official inspection or sorting is to apply to fish sold in the home markets in

lots of over 300 lbs. as well as to fish for exportation. An official certificate of classification will accompany each shipment.

In view of this, especially, it seems to us that the Minister of Marine and Fisheries would be well advised to send Mr. Cowie, of the department, to Europe during the coming summer that he may not only renew and add to his knowledge of Norwegian and British methods of fishing and fish curing, but investigate at close quarters the operation of this new Norwegian law which is sure to affect our export trade. In the event of some inspection system being considered advisable for us, we would be in a position to confidently make use of so much of the Norwegian system as will suit our somewhat different conditions.

Apart altogether from these considerations, however, we feel that someone should, once in a while, visit officially the European fish-producing countries to secure first hand knowledge concerning changes and developments in either fishing methods or fish curing practices, for the information of the industry at large.

We know of no one better able to accomplish this than Mr. Cowie. His previous knowledge of European fisheries and his intimate acquaintance with ours on all parts of the Pacific and Atlantic coasts, together with his ability to set down his observations in clear, forcible writing, peculiarly fit him for such an undertaking.

SLEEPING ON THE JOB

We have carefully watched proceedings in the House of Commons and have found very little discussion so far on fishery matters and none of it constructive. Hon. Charles Marcil threatened to start something when he asked for information about the transfer of the administration of Quebec fisheries to the local government, but when the question finally came up for discussion the details of the transaction were successfully evaded by everyone. The most interesting development so far has been the request from Mr. Martel, a new member from Nova Scotia, for all papers, documents, etc., concerning the demand for a separate fisheries department. These have already been brought down but up to the time of the Easter recess Mr. Martel had not discussed the issue.

The fishing industry which has been laboring so energetically for this obviously needed reform could have no better one to foster its cause than the same Mr. Martel. He has been an officer of the fisheries service and knows the weaknesses and shortcomings of the present arrangement. Furthermore, he is extremely energetic and has the gift to express himself clearly and forcibly. We hope that he will start something. The members from both coasts declare they are behind our request. Lack of action, then, is due to the fact that none of them is forcing the issue. Let those in the industry bring pressure to bear upon their representatives in the house and stir them into action. If the government can avoid making the change just now it will do so, but it will be a difficult proposition to sidestep the question with two dozen members pressing for its attention. We must bear in mind that if we do not get what we are after this session it will be more difficult to arouse the enthusiasm of our M. P.'s next year.

"GOING, GOING—!"

Elsewhere in this issue we publish extracts from a speech made by A. L. Hager at the National Fish Day banquet in Vancouver. We trust it will be read in the proper quarters as it sets forth invincibly that the future of the halibut fishery on the Pacific coast is utter extinction if the present lethargic policy of the federal government is continued.

When it is considered that the product of the halibut fishery is about equal in value to that of the lobster, and is exceeded only by salmon and cod, does it not seem astonishing that something is not done to conserve it? The burly flatfish is in a plight even more serious than that of the sockeye salmon, for the simple reason that an effort is made to continue the salmon species by a certain regulating which allows parent fish to reach the spawning grounds and perform nature's duty of reproduction. With the halibut not even this pretense is made. As a matter of fact it is during the season when the fish is spawning that catching seems most intensive. It is nothing short of a scandal that this is tolerated. It is shameful to contemplate the vast number of potential halibuts aborted.

An element which makes the attitude of the government still more difficult of comprehension is the fact that every interest concerned with the halibut fishery wants legislative action to perpetuate the species. It is true that four years ago the federal government drafted a convention with the United States providing such protection, but it never became effective and, obviously, never will. But because this effort was made four years ago, is that any reason why efforts should not continue and still continue until ultimately something satisfactory is achieved? Ottawa seems to be in much the frame of mind of a friend of ours who dropped into his tailor's and renewed a note for $100 remarking as he came out —"Thank God that's paid".

THAT SALMON EXPORT TAX

Concerning the oft-repeated request on the part of British Columbia salmon canners that an embargo or an export duty be placed on raw salmon so that if intended for manufacture it may be processed in this country, it is learned on excellent authority, while a strong case

has been presented by the salmon packers, on the other hand strong objections to their proposal have been raised by and on behalf of the fishermen. In view of this circumstance the Minister of Fisheries, Hon. Mr. Lapointe, does not purpose taking any action until he has had an opportunity of investigating the issue first hand while he is on the Pacific coast this coming summer.

In the interim, however, the American government bids fair to settle the whole controversy for us by placing a duty of two cents a pound on all fresh salmon. This is provided in the tariff revision bill, recently overhauled by the senate finance committee and reported back to the senate. Whether that will serve the purpose of preventing the export of salmon is difficult to say, but it is possible, too, that it may be a trifle more far-reaching that is desirable.

PISCATORIAL NOTES

Dr. J. C. Elliot, distinguished lecturer, author, preacher, noted food and health specialist, in the course of a Lecture at St. James' Methodist Church, Montreal, on Friday afternoon, March 31, 1922, *on "Foods for Health, Energy and Strength", stated that the people of North America, especially of Canada, ate far too much meat. In our use of meats, he said, he would recommend them in the following order: Fish, Chicken, Lamb, Belgian hare, Wild rabbit, Mutton, Beef; and that pork, bacon, etc. is too heavy to eat for health.*

He said that fish is more easily digested than meat and is just as wholesome.

It was an unusually gruesome vein of humor that prompted someone to publish an undertaker's advertisement in a new fishermen's journal recently launched in Boston.

While the Minister of Marine and Fisheries gives assurance that the transfer of the Quebec fisheries creates no dangerous precedent, it is interesting to observe that the Province of British Columbia is seeking information about the details of the transaction. We, hear, too, that other provinces have their ears cocked. While the Hon. Mr. Lapointe may be right in his contention how should the government treat applications for provincial control of fisheries in other provinces? And would the decentralization of fisheries administration prove a sound policy considering the fact that our fisheries are not provincial property but a national asset?

Our readers will recall that in our last issue we referred editorially to the practice among a certain class of American fish buyers of deliberately cheating Canadian producers. In this issue we publish an article concerning the association of Lake Erie producers to market their fish co-operatively. We are glad to hear of their enterprise and trust that it succeeds at least in overcoming the malicious tactics referred to.

FISH BRIEFS

The Newfoundland seal catch this year is reported to have succeeded expectations, the total to date being 109,000. The Terra Nova is high liner with a total of 22,000.

The newly launcred American schooner Henry Ford, built as a challanger for the international fishermen's race, went aground on Essex Bay, Mass, April 12, shortly after being launched and it was four days before she was pulled off during which time she was in constant danger of complete destruction. She will have to undergo extensive repairs.

Nova Scotia's harvest from the sea last year was valued at $9,000,000, according to a report made by M. H. Nickerson, fishery commissioner. The previous year's yield was worth $15,000,000. Big decreases were recorded on the catch of cod and lobsters, but gains in mackerel, halibut, sfordfish and smelts. The primary industry employed 15,000, while several thousands more were engaged in subsidiary industries.

The Fishmongers' Company of London has finally decided to discontinue the tagging of all Canadian frozen salmon. A certificate enclosed with each fish declaring its source of origin will hereafter suffice, both for the Atlantic and the Pacific species.

Nova Scotia fisherman have decided to ask the Canadian government to assign airplanes to aid them in finding fish schools, according to a dispatch from Halifax, following a plan of the seal-hunters of Newfoundland who will use airplanes to locate seals on the ice. The success of French experimenters in spotting shoals of fishes from the air is cited by the Nova Scotia fishermen. It is claimed that French aviators assigned to this work by their Government were able not only to find fish, but to distinguish the variety.

Walter D. Sweeney, of Yarmouth, N. S., who was arrested recently as he stepped off the Yarmouth boat at Boston, charged with having lobsters in his posession, was fined $48—$2 for each lobsters.

The bark Greyhound, second oldest whaler afloat, has been lost at sea off the coast of Guinea, says a cablegram from St. Vincent, B. W. I. All the crew was saved. The Greyhound, which has hunted whales in every sea, had been operating since 1920 as a packet.

The schooner Bluenose, champion of the North Atlantic fishing fleets, made a profit of $6,386 during her first year, according to the statement submitted to the Bluenose Schooner Company today. She cost $35,580 to build. Her fishing voyages last summer netted $1,862, and her profits on two freighting trips to the West Indies were $2,020. In the Nova Scotia fishermen races and the international races, she won prize money amounting to $5,000, of which $2,503 was profit.

The Frank E. Davis Fisheries, Ltd., has decided to close its Yarmouth offices in the building, which it purchased, on the corner of Water and Central streets, and is putting its business under two separate heads, one of which will be at Clark's Harbor, with Arthur Swim in charge of the office, and the other at Freeport and New Edinburgh, with Ray W. Emerton, in the office.

High Transportation Beggars Industry

Lower fish values and diminished cost of handling commodity reasons advanced before railway commission for reducing express rates.

The transportation committee of the Canadian Fisheries Association has made application to the Board of Railway Commissioners for Canada for the removal of the increase of twenty percent in express rates on fish granted by the board in February 1921, and hearing was set for April 20 when the express companies are called upon to show cause why the increase awarded last year should be continued. There is every reason why our request should be granted because fish values have diminished since that date, sales have been much smaller and, which is more, express companies have improved their position by reason of a diminution in freight rates upon which their payment for hauling is based. The association has circularized its members and hopes to secure information that will adequately present the true situation and D'Arcy Scott of Ottawa has been engaged to guide the case before the commission.

Coditions in the fishing industry have altered tremendously since November or December 1920 when the express companies made the application for the 20 percent increase and there is much available data to prove it. One distributor in Montreal has compiled the following yearly averages, which it appears, represent the situation in general:

	1919	1920	1921
Haddock	5.73	5.03	4.68
Steak Cod	7.61	7.03	5.36
Mackerel	5.89	4.34	3.79
Halibut	19.82	18.31	16.76
Salmon	20.44	20.33	18.69
Dore	13.79	16.05	14.20

On the Pacific coast, we are advised, business conditions are even less favorable. Prices are down to rock bottom and in numerous instances below the levels of 1914. Conditions generally are very bad, this applying not alone to fish packers but to meat packers and produce men as well. The situation has been induced, no doubt, by the general economic reaction from the prosperous days of the late war years when money was plentiful and people were liberal in their purchases. The buying people throughout Canada and the United States are using less food. Unemployment and the high cost of marketing are the chief elements in precipitating this condition and unless some immediate relief is given many people are liable to suffer commercial extinction.

Offering Below Cost

"We are offering our frozen fish", states a Vancouver dealer, "at cost, and in some cases at less than cost. While it may be argued that our fish was accumulated at too high a cost I may say that such is not the case. The average buying price of halibut for storage purposes was less in 1921 than for a good many years. Undoubtedly one of the principal difficulties is the continued high cost of express and freight service.

"Referring to our records I present the following information which is correct and which may give some food for thought in consideration of the depreciation of fish values to 1914 levels:

"Frozen Canadian haddies—In 1916 and years previous we were able to bring carloads of finnan haddies from Digby, Canso, Mulgrave, Point Tupper, Hawkesbury and Halifax on a freight rate basis of $1.10 per cwt. This was the Halifax rate and from the other points a small local charge was added. In 1918 we paid $2.28, and in 1921 $2.66½. We have thus far in 1922 received three carloads at $2.46 per cwt.

"Following are comparative express charges on fresh fish from Vancouver to eastern Canadian and United States centres.

Place	rate	date effective
Chicago	$2.75)	
Boston	3.00)	May 20, 1916
New York	3.00)	
Chicago	3.12)	
Boston	3.40)	Jan. 25, 1919
New York	3.40)	
Chicago	3.93)	
Boston	4.28)	Jan. 15, 1921
New York	4.28)	
Toronto	3.00)	October 1, 1915
Montreal	3.00)	
Toronto	3.40)	Sept. 1, 1919
Montreal	3.40)	
Toronto	4.28)	May 23, 1921
Montreal	4.28)	

"From the above it will be noted that the freight rate on frozen fish to eastern Canadian cities has ad-

"The above weights are for 100 pounds, net weight, minimum twenty thousand pounds per car.

"In connection with freight rates covering carload lots of frozen fish from Vancouver to eastern Canadian and United States centres, prior to 1919 we were able to reach Toronto and Montreal for $1.25 per cwt. The rate advanced to $1.87½ and then to $2.50.

"Prior to 1918 we were able to ship carload lots of frozen fish to Chicago and the cities of the middle west for $1.25 per cwt. In 1918 this rate advanced to $1.56½ and later to $2.08½.

"Prior to 1918 we were able to ship carload lots of frozen fish to Boston, New York and other cities in the east for $1.50 per cwt. In 1918 this rate advanced to $1.87½ and in 1920 to $2.50.

"Freight rates are figured on the gross weight, or fish plus paper, boxes, etc. The minimum freight allowance has also been increased from 24,000 to 30,000 pounds.

Outlook For Fish Trade Brightens

Old stocks almost cleaned out and merchants anticipating return to normal conditions this year — Markets in better position to buy.

By Colis McKay

Halifax—The fact that Nova Scotia has sent to the spring fishing a large fleet of bankers than in any year since the war indicates that this branch of the fishing industry considers the outlook for the year decidedly favorable. A further encouraging sign is that the shore fishermen are preparing for an active season.

Halifax fish merchants are inclined to take an optimistic view of the immediate future of the fish business. Since the first of the year the prices of salt fish have been firm, and in most cases have advanced; something very unsual, and indicative of good market prospects.

Comparatively few Canadian merchants now have salt fish in any quantity in stock. Newfoundland is in the same category. About the only fish producing country having salt stocks of any importance on hand appears to be Norway, which was unable to make its usual sales to Spain, owing to the prohibitive tariff adopted as a reprisal by Spain for the loss of her wine market in Norway.

Last year the production of salt fish in Canada and Newfoundland was comparatively small, and the merchants who last fall were carrying hundreds of thousands worth of stock in fear and trembling sold out sooner than they expected. Some merchants now wish that they had held on longer, as they would have been able to command better prices. Other factors in the situation indicate a prospect of a good demand for fish at firm prices; and the fish business having been one of the first to go to pieces may very well be the first to recover. In France and Norway the fishing business as a whole last year was unsatisfactory; both these countries are handicapped by the possession of expressive craft and gear, acquired at peak prices, and they are more likely to curtail than to enlarge their fishing operations this year. Another consideration is the possibility of the Genoa Economic Conference devising some scheme to make Russia an effective factor in the world's markets. Before the war Russia offered one of the greatest markets for fish; and if some arrangements is made whereby Russia is enabled to absorb fish again, European competition in the markets with which Canada and Newfoundland are mainly concerned should be negligible in the near future.

Again, an improvement in general business conditions is about due. Some business men are prophesying a return to normalcy. Of course, there is no such thing as normalcy. Since 1825, the industrial and commercial world has moved in cycles—periods of progress and general prosperity alternating with periods of stagnation and depression. The war interrupted the cycle; the Russian Revolution, and the Russian famine accentuated the depression when it recurred. The general opinion seems to be that the nadir of the depression has been passed. The general business recovery is not likely to be rapid, owing to the huge burden of war debts, but any recovery will help the fish business. One of the effects of the depression was to reduce the price of meats, and this affected the demand for fish in this and other countries. At present the farmers and cattle raisers, are not receiving prices calculated to encourage them in raising meat animals; and the prospects are that in the near future the production of meats will decline, and prices increase. This will tend to increase the demand for fish.

Again, Cuba and other tropical countries are likely to be the first to recover from the effects of the general depression.

(Continued from previous page)

vanced exactly 100 percent whereas the advance in the states has not been so great.

"Icing and salting en route charges on both eastbound and westbound freight have advanced tremendously and in greater proportion than have express and freight rates."

The writer concludes his letter as follows: "Now what can be done under such conditions to get our people to eat more fish and to further capitalize one of Canada's great national resources? Some business men suggest that the government at Ottawa should assist by a broad, comprehensive advertising campaign or by the absorption of a portion of freight and express charges. In brief, to give a little less attention to agriculture and a little more attention to fisheries."

Another Angle of Question

The figures from the Montreal and Vancouver merchandizers have been given to illustrate that the fish values are in many cases back to 1914 levels whereas transportation charges are as high as a hundred percent more than they were six years ago. Does that seem a square shake to the industry? And there is another point from the standpoint of the express companies which must be observed. Since the increase of 1921, operating costs have diminished appreciably. Furthermore the cost of hauling express is based on freightage insofar as the Dominion Express is concerned, the express company paying to the C. P. R. one and one half times first class rate. Now since our 1921 increased freight rates have dropped 7.4 percent so that the Dominion express is required to pay that much less to the C. P. R. As a matter of fact there is no justification for this scheme of paying one and one half times first class rate, as has been pointed out to the railway commission upon former occasions. The Canadian National Express arrangement with the publicly-owned railways is to pay one-half of gross receipts, which is the scheme in universal practice. With the Dominion Express and the C. P. R., which are really one and the same institution, it is merely the transfer of money from one branch to the other and the fact is that the C. P. R. is taking too high a rate from its express branch, thus enabling the latter to put on a poor mouth before the commission.

This, in a general way, is the case as we see it, and if presented to the commission in that form we see no reason why our request should not be granted. Even the wiping out of the twenty percent express increase will mean much to the consuming public. It will be a movement in the right direction.

Walker by Name; Hustler by Nature

Interesting biographical sketch of Stanford J. Walker, one of best-informed fish culturalists in country.

Born within a stone's throw of the first fish hatchery operated by the Canadian Government, and of which his father was at the time superintendent, brought up in its environment, later to make fish breeding his life work, there is probably no individual on this continent who has as much practical knowledge and experience on the subject of fish culture as Stanford J. Walker, Ottawa.

Mr. Walker, although his worth is well- known and appreciated by those connected with fish cultural operations in Canada, has not received the introduction to the world of artificial fish breeding to which his ability and experience entitle him. But the fault lies with that peculiar quality of human nature, so strongly pronounced in him, of shunning publicity. His work at the present time is the inspection of fish hatcheries and the supervision of egg collection, which takes him each year over the major portion of the Dominion. To attempt to induce Mr Walker to recount, in the manner of an interview, his early experiences and associations in connection with the work of fish breeding, would be as futile as to try to wheedle Woodrow Wilson into a discussion on United States foreign relations.

The writer, who for some years has been connected with Canadian fishery matters, and familiarly acquainted with Mr. Walker, was induced to write this brief biography by a little incident which occured when he visited Mr. Walker's office in Ottawa a few weeks ago. Over his desk is a large painting of the first fish breeding establishment operated by the Federal Government, at Newcastle, Ontario. The work is by H. Shrapnel, A. R. C. A. 1885 It is a work of art and is wonderfully true in detail. Being somewhat interested in art and also in fishery topics, the writer asked Mr. Walker some questions about it. This apparently touched the strings of his heart for he inadvertently divulged information which I never before heard escape his lips.

"That", he said, pointing to a spot on the picture, "is the place where I was born—just over the brow of that hill". Undoubtedly the picture awakened recollections of his childhood, and the writer takes occasion to apologize if he took advantage of this sentiment to acquire additional information concerning him.

Let me first describe the oil painting. In the foreground cattle are browsing. To the left and farther back is the fish hatchery located on a stream, with nursery ponds adjacent. A gently sloping hill forms the background, and over the crest in the distance is the town of Newcastle.

Eight or ten years before Mr. Walker had his introduction to this world of ours, his father, John Walker, went to Newcastle to superintend the work of egg collection and nurture, in the first government hatchery operated in Canada Some years before this Samuel Wilmot, a prosperous resident of Newcastle, who was exceedingly interested in the study of fish life, began experimenting in the cellar of his home with fish eggs. He removed and fertilized salmon trout eggs, put them in clay pans, arranging a constant circulation of water through them, and in due course they showed signs of development. The first year, however, Mr. Wilmot made a fatal error. He picked over the eggs to select the good from the bad just as every hatchery man must do to-day. But in separating the chaff from the wheat he kept the chaff and destroyed the wheat. His mistake was soon apparent and the next year and succeeding years, instead of keeping the white eggs he dumped them, and retained the translucent ones. The humor of this mistake will be appreciated by men associated with fish cultural work to-day.

Mr. Wilmot, enthused over the success of his experiments, prevailed upon the Government to take up the work, and about the year 1873 the Newcastle fish hatchery was built.



STANFORD J. WALKER

During these years when Mr. Wilmot was experimenting, Mr. John Walker was operating extensive plaster mills in St. Rocks, Quebec. He had contracted to furnish plaster for use in the construction of the parliament buildings, but unfortunately a strike on the boat on which he was depending to transport the plaster occasioned him serious financial loss. Just at that time the Newcastle hatchery project was launched and he was prevailed upon to take up the work. He remained at Newcastle until 1890, and during that period his work accounted for considerable progress in the science. Retaining ponds were built to keep the fry after they had hatched, to watch their grewth, and also to demonstrate the practicability of retaining the fry. Experiments were conducted with fish food, and it was discovered that beef liver was the most suitable. These and other equally valuable investigations were instituted and carried on there.

Laid Foundation Early

In 1882 Stanford J. Walker, the subject of this biography, was born. During his childhood years he played about the hatchery, and his early interest in the work

European Fleets to Banks Grow Again

French fleet much smaller than that of pre-war days, however — None operating now from St. Pierre.

While the results of the fisheries of France as a whole were disappointing last year, the French Grand Bank fleet is reported to have done very well. The fleet was small enough compared with pre-war days, but was considerably larger than the previous years. Since the war the number of vessels crossing from France to fish on the Grand or Lesser banks off the coast of Newfoundland have been:

	Sail	Steam
1919	65	44
1920	73	31
1921	96	26

While the number of steam trawlers shows a falling off the total tonnage of these craft has not been greatly decreased, because large trawlers have taken the place of smaller craft.

The Island of St. Pierre which at one time owned a considerable fleet of fishing vessels did not fit out a single craft for the banks. All the fishing done by the native population of St. Pierre is now carried on by motor boats.

The French steam trawlers operating in western waters did little during July and August, but made fine catches later, and are reported to have been fairly satisfied with the season as a whole. The sailing vessels had a particularly favorable season, doing much better than in 1920—a fair year. Nearly all had a good crossing in the spring; most were able to return to France in August with full catches; and they next returned in September. Some landed big catches at St. Pierre, and then filled up again before returning home. In the squid season most of them operated on the Grand Banks, south of the Virgin Rocks. Those which tried the Bank of Saint Pierre earlier had good luck.

Most of the steam trawlers operated on the southern part of the Grand Banks. Others tried Middle Ground,Cuerean, and St. Pierre banks with varying success.

Fifty Portuguese Bankers

In 1921, Portuguese sailing vessels to the number of fifty engaged in the Grand Bank fisheries, as compared with thirty in 1920. They arrived on the banks somewhat later than the French vessels, and also returned home later. They worked only on the Grand Banks, mostly north of the Virgin Rocks. Their catches were in general very satisfactory.

While the French did well on their Grand Bank trips their vessels engaged in the Iceland fisheries had a very poor season. Twenty-nine steam trawlers and eighteen sailing vessels were engaged in the Iceland venture. The catch as a whole was small, but the fish of an excellent quality. Bad weather interfered greatly with the fishing especially during the first trip. The steam trawlers, of course, did not suffer so much on this account as the sailing vessels did.

Before the war France had forty-seven steam trawlers and sixty-six sailing vessels engaged in the Iceland fisheries, as compared with twenty-nine and eighteen respectively in 1921.

In the six years preceding the war France sent across the Atlantic an averge of 226 sailing vessels to the fishing, while St. Pierre outfitted a local fleet averaging forty-three sail. In that time the number of French steam trawlers crossing the Atlantic had increased from eight to twenty-five.

(Continued from previous page)

made him almost a constant fixture there. The basis of his knowledge was early laid,—and it was invaluable, practical experience. Few, if any, have had such constant and close connection with the progress of fish breeding.

In 1890 Mr. Walker, Sr. came to Ottawa and opened the fish hatchery there. It was located at the corner of Queen and O'Connor streets, on the very site now occupied by the monumental Hunter building in which the Fisheries Department is housed. Soon other establishments sprang up in Quebec and Ontario, and the work showed rapid progress. Mr. Walker's valuable contributions to the science received material appreciation in the early years of his work when the Dominion Government's fish breeding exhibit at the World's Fair in London was awarded the gold medal.

Mr. Stanford Walker's entrance into the civil service in the employ of the fish cultural branch was largely accidental. He had had a hankering for it, but his father was not too highly enamoured of the civil service as a calling, and attempted to dissuade him. In 1900 a shipment of one million salmon trout eggs was received at Ottawa from Georgian Bay. Mr. Walker, Sr. was away, and it was found that the assistant he had left behind was not sufficiently experienced to look after them. It was then that the subject of this article volunteered to take charge. Already half the shipment had been lost, but by laboring night and day Mr. Walker managed to save the balance. His success on this occasion brought him into closer contact with the federal officials, and he immediately became attached to the service, working in close co-operation with his father, until the latter died in 1914.

Since the year 1908 Mr. Walker has been inspecting hatcheries throughout Canada and during that time he opened many establishments and instructed new officers in their work. He has also introduced numerous innovations in hatchery equipment, the most recent of which is a graduated incubating jar which facilitates the measuring of eggs. In every way he has been faithfully carrying on the work so successfully inaugurated by his father nearly half a century ago. He has been intimately connected with the science of fish culture practically since its inception in Canada. His first interest was in the Newcastle establishment, —the great experiment,—and today there are thirty-six such hatcheries and eleven subhatcheries scattered across the country, all of which he has seen come into being. Undoubtedly none has contributed more to the advancement of the science in Canada than Mr. Walker and his paternal predecessor.

Mr. Walker has an intense interest in the subject and has a reputation for sincerity and frankness, along with an unusual capacity for work. In addition he has a happy faculty for story-telling. He is today approaching his thirty-ninth year.

Extinction of Halibnt the Only Outcome

A. L. Hager points out why valuable species cannot endure under present conditions — Everyone wants closed season.

Speaking at a banquet in Vancouver in celebation of National Fish Day, A. L. Hager, president of the Canadian Fisheries Association, reviewed at considerable length, the regrettable situation in connection with the Pacific halibut resources and demonstrated quite conclusively that unless effective measures are taken at once the future of this remunerative branch of the fishing industry is in grave peril. Mr. Hager, having been interested in the halibut business for many years, is intimate with the true conditions, and what he says, merits the closest and most serious attention. Herewith we reproduce his remarks:

You are all more or less familiar with the continual decline in the halibut fisheries in the North Pacific waters, and this decline is far more serious than is apparent, even to those engaged in this particular branch of our industry. The annual tonnage of halibut taken from North Pacific waters makes good reading, but the tonnage shows so well because of the fact that new areas are being fished, and fishing vessels are going further afield to virgin grounds each year. We can probably do nothing to avoid an annual shrinkage in tonnage because of the fact that modern fishing vessels and modern methods can catch the halibut faster than the fish can grow. We learn that the halibut is twelve years old before it can reproduce.

An authority tells us that the continental shelf, or the 100-fathom mark, extending from Astoria to the Behring Sea, gives us a total fishing area for halibut equal to less than the North Sea fishing area. From this you will see that our halibut fishing banks are not as extensive as is generally believed, and some of you may be surprised to learn that halibut fishing vessels travel from Seattle or Vancouver a distance of 2000 miles to make a catch. Figure the return distance and you have a voyage longer than from Victoria to Halifax.

About 1912 halibut fishing vessels ventured as far north as Yakutat, Alaska, a distance of 1200 miles from Seattle, which up to that time was the farthest north that halibut had been taken in commercial quantities. It is in reference to the fishing banks of Yakutat and Yakataga that I desire to particularly dwell this evening. These banks are approximately 600 miles north and west of Ketchikan, Alaska, which latter city is approximately 600 miles from Seattle. These banks are therefore approximately 700 miles from the port of Prince Rupert, and under present day fishing arrangements they are considered quite near. After one or two trips of fish were taken from these banks it was easily discernible that they were what is known as "spawning" fish, and were in poor condition. Since that date the halibut in waters closer to the shipping ports have been pretty well cleaned out, with the result that during the winter months the halibut fishing fleet centres on this bank. I have personally never visited this fishing area, but my company has handled at its Ketchikan, Prince Rupert, Vancouver and Seattle branches many, many millions of these fish. Many millions of pounds of these fish have come under my personal observation and examination at Vancouver.

Spawning Fish unfit to use

We know as an actual fact that every halibut taken from this great spawning area assists most materially in the extermination of the supply. When fishermen stick a knife into the belly of the fish for the purpose of dressing it, the spawn and milt just pour out. The fish themselves are really unfit for use and are the poorest kind of trash. The heads of the halibut are large, the napes and pokes are flabby, and the flesh of the fish little more than skin and bone. I term it the crime of crimes to permit this fishing to continue.

About the time these fish were first taken I appealed to the authorities for a closed season and to prohibit the catching of all halibut in all areas for, say, a three months' period each year. A scientific investigation was made by Professor Thompson under authority from the British Columbia Government, and his work was most valuable. In the meantime the years rolled by and April 1918 the International Fisheries Commission appeared in the cities of the North Pacific to hear evidence in connection with several matters of International concern. I appeared before this commission at its sitting in New Westminster in early May 1918, and made the best plea that I was capable of making in behalf of a closed season. I pointed out the necessity of enacting legislation that would forbid the landing of any halibut in any port in Alaska, United States, or Canada, caught during the three winter months. It is apparently improper and not feasible for one country to adopt a closed halibut fishing season without the other doing likewise. Practically all halibut caught are taken beyond the three mile limit, and if American and British vessels alone were prohibited from catching halibut during the winter months, then it would be an easy matter for a vessel of some other nationality to operate and defeat the object of the closed season The only practical way therefore would be the way suggested.

Now what was done? A treaty known as the Convention between the United States and Great Britain having reference to the regulation of fishing in the waters contiguous to the State of Washington and in the Fraser River basin was submitted to the Canadian and United States governments. This treaty was recently withdrawn from the United States Senate by President Harding. The other portion of the treaty is known as the Treaty between the United States and Great Britain concerning port privileges and deals with the halibut fishery and the tariff on fresh fish. This treaty, I understand, is still under negociaton. Un-

fortunatly this proposed treaty deals with a variety of matters some of which are decidedly cotentious. I am of the personal opinion that this treaty will never become effective, and that we are only wasting further time by waiting.

Everyone Wants Closed Season

Let us examine the proposed closed season for halibut fishing and see how the men interested feel about it. It will prove a surprise to you to know that every producing and distributing concern in Alaska, British Columbia, Washington and Oregon are in favor of a closed season; that every supply house, that every company operating halibut fishing vessels, that the fishing vessel owners association composed of over 90% of all of the independent vessels fishing for halibut in Pacific waters, and that every branch of the Fishermen's Union on the Pacific Coast, are strongly in favor of the proposed closed season. Here we have an unprecdntd situation of everyone concerned being unanimously in favor of a conservation measure.

I may tell you that a few days ago at the invitation of the Fishing Vessel Owners' Association I addressed a largely attended meeting and at the conclusion of same every vessel owner present, some forty in number, signed a petition to discontinue further fishing this winter until March 15. The Deen Sea Fishermen's Union passed an nnanimous vote in favor of a closed season. The association has already prepared an agreement and is now securing signatures whereby all fishing vessels operating in North Pacific waters irrespective of nationality will suspend fishing next winter from november 15 to February 15. Was there ever before within your knowledge such a situation?

To give you concrete figues supplied by the Dominion government as to the quantities of halibut taken during the winter months I submit the following:

During the month of November in 1919, 888,000 pounds; in 1920, 2,169,000 pounds; in 1921, 3,133,100 pounds. In December 1919 1,404,400 lbs.; 1920, 906,000 lbs.; 1921, 2,326, 400 lbs. In January 1919, 959,700 lbs.; 1920, 899,600 lbs. *In January of this year just closed the figures are not complete, but* 2,000,000 *lbs. of halibut were landed last week alone—in the last week of January alone And every one of these fish was a spawning fish.*

It has been some eight or nine years since I first endeavored to secure a Halibut Closed Season, and it has been four years since the International Fisheries Commissions at in Pacific Coast cities and took evidence, and I regret to say that nothing whatever has been done up to this moment.

The Company that I represent engaged in producing and distributing fish principally Halibut for over fifty four continuous years. With our organization and our organization and our capital employed I believed I can fairly expect you to accept my statement when I say that we are most vitally interested and thoroughly sincere in our endeavours to perpetuate the supply of Halibut.

Sardine Supplies used up

Sardine canners of Maine are feeling optimistic about the sardine pack this year. Last year's output was rather short and there is now no surplus on hand. The season opened April 15.

Harvest of the Sea

By A. B. Klugh

The "Harvest of the Sea" is a phrase which has frequently been used in referring to the fish and other marine organisms which are brought ashore for man's consumption, but it is only within very recent years that any definite knowledge has been obtained of the productiveness of the sea which makes this harvest possible. Yet a knowledge of the productivity of the sea is of considerable economic importance, since it is the only real basis for intelligent regulation of fishery operations and for all efforts to maintain an undiminished supply of marine products.

It can readily be seen that it is no easy matter to estimate the productivity of the sea, since all such direct methods as are used in estimating the yield of the land are naturally out of the question. In the case of the sea the estimates are based chiefly on quantative plancton investigations and on commercial fishery statistics.

Before any idea can be obtained of the productivity of the sea it is necessary to have some conception of the nature and importance of the plancton. The word plancton is a collective term for all the minute free-swimming and free-floating organisms found in water. Most of the plants and animals which make up the plancton are microscopic. We look out over the ocean and we are likely to regard it as a "waste of waters", but as a matter of fact it is nothing of the kind, it is a "sea of life", every drop of which has its vegetable and animal inhabitants. The plants of the plancton, chiefly the peculiar little plants with shells of silica known as diatoms, are the ultimate basis of all life in the sea, just as pasturage is the basis of all life on land. Just as we say "all flesh is grass", so we can quite as truly say "all fish are diatoms", for if we trace the chain of food-relations of fishes backwards we find that one fish may eat another, this fish may feed on still smaller fishes, these in turn on small crustaceans, which live on the plants of the plancton. If the chain leads us through other organisms, such as the shell-fish, we arrive ultimately at the same fundamental food-source—the plancton. The plants of the plancton, then, are the "pasturage of the ocean".

Biologists have accumulated a considerable mass of data concerning marine plancton, especially in regard to the North Sea and the Baltic, and some very interesting estimates of the amount of food-substance produced annually by the plancton have been made. Thus Hensen has shown that in the Baltic the plancton produced 150 grams of dry organic matter per year for each square metre of sea surface.

Fishery statisttics show that in one year 951,900 tons of fish were caught in the North Sea, this yield being at the rate of 15 pounds per acre. In the case of inshore fisheries the yield is greater, being 79 pounds of fish per acre for Morecombe Bay on the west coast of England, representing a value of about $4 per acre, while the mussel fisheries of the same locality bring in a revenue of about $70 per acre.

It is interesting to compare the amount of flesh produced per acre on cultivated land and in the sea. Bliebahn states that an average of 66.8 pounds of beef are produced per acre. The inshore fisheries of Morecombe yield 71.2 pounds of flesh per acre, while the mussel beds produce 6400 pounds per acre per annum.

Does Giant Squid Explain Serpent Yarns?

Authority tells of peculiar characteristics of monster sea dweller and deals with serpent stories.



Squid swimming at surface of water

By A. B. Klugh

The belief in the existence of sea-serpents is of great antiquity. Aristotle, writing about B. C. 320, mentioned serpents on the coast of Libya which upset vessels, Pliny tells of some encountered in the Persian Gulf which were thirty feet in length, and among the Norwegians, Swedes, Danes and Finns the existence of a sea-monster of prodigious size, known as the Kraken, was believed in for many centuries.

Coming to comparatively recent times we have numerous records of the appearance of sea-serpents. Egede, known as the "Apostle of Greenland" says, "On 6th July, 1734, there appeared a very large and frightful sea monster, which raised itself so high out of the water that its head reached our main-top. It had a long, sharp snout, and spouted water like a whale; and very broad flippers. The lower part was formed like a snake. After some time the creature plunged backwards into the sea, and then turned its tail up above the surface, a whole ship's length from the head." In 1809, Mr. McLean, the minister of Eigg, in the Western Isles of Scotland, said that he had seen, off the Isle of Canna, a great animal which chased his boat as he hurried ashore to escape it, and that it was also seen by the crews of thirteen fishing boats, who were so terrified that they fled to the nearest creek for safety. In 1817 a huge marine animal, having the appearance of a serpent and variously estimated to be from fifty to one hundred feet in length, was reported from Gloucester Harbour, Mass. In May, 1833, a party of British officers crossing Margaret's Bay, off the coast of Nova Scotia, saw at a distance of two hundred yards, "the head and neck of some denizen of the deep, precisely like that of a common snake in the act of swimming" and estimated its length at eighty feet. Three residents of Christansand, Norway, in 1847, reported a marine animal "about six fathoms long, the body as round as a serpent's, and two feet across". In 1848 the captain, and some of the officers of H. M. S. Daedalus, saw in the Atlantic "an enormous serpent, with head and shoulders kept about four feet above the surface of the sea, sixty feet of the body being visible, the body being about sixteen inches in diameter, dark brown in colour and yellowish-white about the throat". In 1857 the captain of the Castilian reported a sea-serpent with a head eight feet in diameter seen off St Helena. In 1875 the officers and crew of the bark Pauline saw a sperm whale which was "gripped around the body with two turns of what appeared to be a huge serpent. The serpent twirled its victim round and round for about fifteen minutes and then suddenly dragged the whale to the bottom, head first", and in the same year Lieutenant Haynes of the Royal Yacht Osborne reported a marine monster off Gibraltar, seeing "the head, two flappers and about thirty feet of the animal's shoulder". In 1905 two gentlemen on the yacht Valhalla reported that off the coast of Brazil they saw "a great fin about six feet long, standing up out of the water, and than suddenly in front of the fin a turtle-like head shot up on a long eel-like neck".

Imagination or Reality

The above are some of the reported appearances of sea-serpents, of which there are many more, but those mentioned are typical. Now is there, or is there not, such an animal? Opinion is much divided on the matter. First, there are those who scoff at the idea, and who deride all such reports as due to an over-active imagination or as fabrications. But before we adopt such an attitude we must bear in mind that the persons who have made these reports were men accustomed to the usual sights of the sea, and that they were men of integrity and sincerity. Next, there are those who believe that such an animal exists, and that it is one of the huge reptiles, such as **Pleiosaurus**, which has survived in the depths of the ocean since the secondary geological period. Such a theory cannot be banished as an impossibility, but the probabilities are strongly against it in view of the fact that no remains of any of these animals occur in the rocks of more recent geolgoical periods, and neither have any remains been cast up on the shores of any of the oceans. Thirdly, there is the view of Dr. Oudemans that it is a huge mammal closely allied to **Zeuglodon** of the tertiary period, which had a small head, long neck and more or less whale-like body. This idea, it must be remarked, is founded on the sum of the recorded appearances of sea-serpents, and not on any specimens or remains. Finally, there are those who believe that all the records of sea-sepents can be accounted for by the appearance and habits of some known animal.

Some of the records are, in all probability, founded on the well-known habit of porpoises of swimming in line, and leaping from the water, thus furnishing the vertical undulations which suggested serpentine motion, though it must be noticed that the movement of the body of a snake is from side to side and not up and down.

Giant Squid The Explanation

The animal, however, which undoubtedly forms the basis of most of these records is the Giant Squid. In early days the existence of these creatures was un-

Mackerel Migrations

Some interesting observations and theories advanced by fishery officer.

Robert Keating, fishery overseer at Egerton, P. E. I., contributes to the Canadian Fisherman an interesting theory as the mysterious home of the mackerel when they disappear from our shores. Mr. Keating has made some practical observations of the mackerel, too, but his speculation as to their whereabouts when they are not visible, at least merits the credit due to originality. We have not heard scientists advance a similar opinion, and, inasmuch as the mackerel have never been followed to their lair, Mr. Keating's explanation seems to have as much to commend it as any yet advanced. Mr. Keating writes as follows: (Ed. of C. F.)

Continued from previous page

known, and Fernetty, describing a voyage made in 1763-4, is apparently the first to mention these gigantic cuttle-fish The Danish naturalist Steenstrup in 1847 described a Squid with a body twenty-one feet long and tentacles eighteen feet in length. In 1861 the French steamer Alecton encountered a Squid with a body from sixteen to eighteen feet long near Teneriffe, and the crew succeeded in roping it, but the rope cut through the body near the hinder end and only the tail was secured. Since that time many specimens of these Squids have been obtained, and the vast size they attain may be judged from the fact that a specimen fifty-two feet in total length, and another fifty-five feet long, were stranded on the coast of Newfoundland and that about a thousand pounds of meat was cut for bait from one found dead near the Grand Banks. Other specimens have been found off the coasts of Sweden, Iceland, Ireland, Chili, New Zealand, Alaska, and in the Indian Ocean, showing that their distribution is practically world-wide.

How exactly the appearance of one of the Giant Squids swimming at the surface of the water would fit into most of the descriptions of sea-serpents was not realized until careful studies were made of the habits of some of the smaller species of Squids. When swimming the Squids propel themselves backwards by the out-rush of a stream of water from the siphon, a tube which points in the contrary direction to that in which the animal is going. The tail, therefore, goes in advance and the body tapers towards this. They swim at the surface in calm weather, and it is noteworthy that practically all accounts of the appearance of sea-serpents refer to the fact that this was the condition of the weather. The arrow-like tail is raised out of the water, and as it precedes the rest of the body, moving at the rate of several miles an hour, it, of course, looks to a person who has never heard of an animal going tail-first at such a speed, like the creature's head. The appearance of this "head" varies in accordance with the lateral fins being seen in profile or in showing more or less of their flat expanse. The elongated tubular body gives the idea of a long neck, and the upper tentacles, floating in undulations behind, resemble a serpentine body, while the excurrent stream, pouring aft from the siphon, is readily mistaken for an indefinite prolongation of the body.

In view of these facts it seems altogether probable, if not practically certain, that the Giant Squid is the animal which has for ages figured as the "sea-serpent".

There is much discussion and difference of opinion at present regarding the movements of mackerel during the annual migrations from somewhere in southern waters, toward the Gulf of St. Lawrence. I use the expression "somewhere in southern waters" because a definite location has never been stated and, in fact, is not known. We are told it is off Cape Hatteras, and that covers a lot of ground, or water, rather, but I have seen mackerel far south of Hatteras, and so far from land as to be outside of any shore movements.

I grew from boyhood to manhood in the belief that the fish made a straight journey from some locality near Cape Hatteras to the Gulf St. Lawrence. Older men taught me it was so, and old opinions do not change readily, especially with fishermen. A little study of fish caught in various localities showed some difference in color and markings. This was explained by older men as being due to changes in the water, as the fish proceeded north. But the reasons given from time to time never quite satisfied or convinced me. The lecture given by Dr. Prince of the Biological Board, at Charlottetown in 1921, fully convinced me that much I had learned was of little or no value. While Dr. Prince did not say much of mackerel, his remarks were very interesting. They referred principally to the annual migration of herring to the coast waters of the British Isles, where the prevailing belief among fishermen was that the fish came from the north. This belief held for many years, in spite of all that learned men who studied the matter announced from time to time. We have held the same idea in regard to the mackerel and will no doubt hold it until close study and experiment prove the contrary.

Where then do the large schools of mackerel go? To the Gulf of St. Lawrence? No, a portion go there, but not all. Take a chart of the Gulf and let any fisher of mackerel go over it carefully marking the areas where mackerel are found in the season. Strike a line from East Point, Anticosti to twenty miles North of St. Paul's Island, at the mouth of the Gulf, another line from North Cape, P. E. I. to Birch Point, Miscow Island, and another from Cape Bear, P. E. I. to Cape George, N. S. This leaves about one third of the Gulf where the fish are found in the fishing season. Granted that a few mackerel are taken in the parts eliminated, but only a small quantity, and there is not sufficient room or feeding ground in the area defined for all the fish which cross the Bay of Fundy. As to where the fish stay in the winter months I beg to submit my opinion of which I am convinced.

Gulf Stream The Playground

There is a mighty river wide and warm, flowing north east from the Gulf of Mexico with a bed and banks of much colder water. We call it the Gulf stream but it is a river, none the less, with the northern bank well defined. Along the banks and under the bed of this mighty stream is the southern home of the mackerel . In the layer or straturn of water beneath and close along the banks the fish find the plentiful supply of food that the stream carries along, for the fish is always a heavy feeder, except when the breeding instinct calls on it to make the long journey north. Why does it not spawn there? The abundant food which it lives on would in turn be the death of the fry, in its first stages of growth. I believe the fish extend the whole length of the stream, the Irish mackerel being the "tail enders", if I may use the term. And the mackerel furthest south in the Gulf stream are the first to leave on the journey inshore, the movement being taken up by those further along or down stream. And the movement is direct on shore the fish not showing on the surface until soundings are reached. Now we know the fish would be crossing a colder current of water from the start which accounts for their not showing on the surface, and so the course ends in a turning motion to the east, to make up the ground lost on the journey. No doubt they follow a known route or routes, and avoid certain areas of the ocean. With the instincts of many other fish, they are seeking the spawning ground where they themselves were deposited as spawn. Mackerel do not spawn on the bottom, though the stratum of water in which they spawn may be near the bottom. And the location is along the Nova Scotia coast, as well as in Gulf of St. Lawrence.

The mackerel taken in summer along the Nova Scotian coast have never been in the Gulf of St. Lawrence. And quite often small mackerel are plentiful in the harbors along the same coast. The instinct of propagation satisfied, the first need is food and plenty of it, so the fish scatter far and wide, covering miles of bay and ocean, and when food cannot be found inshore on the Nova Scotian and New England coasts they return to the Gulf Stream. The return of the fish from the Gulf of St. Lawrence is more clearly defined as a movement along shore. This may be due to natural enemies which have followed the fish north.

Is Not Inviting Controversy

To sum up briefly: (1) The Gulf stream is the winter home of the mackerel, and perhaps of the salmon and pollock also; (2) The mackerel does not spawn on the bottom but in stratum of water free from natural enemies, and near the bottom; (3) The spawning location is anywhere between Hatteras and Bank Bradley.

This article is not written for the purpose of inviting discussion, or criticism, from able writers who, to use a nautical expression, can "sail rings around me." Much of what I have read on the subject refers to the mackerel when we can see it and follow the apparent course of the schools along shore. My letter is chiefly an opinion of the fish and its location, when we do not see it. A guess, perhaps, but a guess that study and experiment properly directed may prove a certainty. The question of where the mackerel is in winter reminds me of swapping fish stories with a man from New Jersey. His story was "that in his locality there was a small fish in the drains and marshes so cunning that when the drains and bogs dried in summer the fish sprang upon the back of the first frog that happened along with the certainty that it would reach water." I countered with a story of the tom cod which ascends the short rocky brooks along the coast of Nova Scotia to spawn.

This occurs in January when the brooks are covered with ice. In telling my story I gave the local name of the fish which is "Frost fish". He repeated the name over several times and then asked me: "Say what happens to them frost fish of yours when warm weather comes?"

USE OF DANISH SEINE RAPIDLY EXTENDED

The great success of the Danish seine, or **Snurrevaad**, to give it its proper name, in catching plaice, haddock, and all sorts of bottom fish, has led to its increasing use in recent years in neighbouring countries, Norway, Sweden, Holland and Germany. In 1918 the Swedish fishermen employing it caught 557,259 kilogrammes of fish; in 1919 the quantity was 3,407,931 kilogrammes and this was increased in 1920 to 5,197,411 kilogrammes. It is announced in Scandinavian papers that a great fleet of between 500 and 600 motor boats using the **snurrevaad** will probably work on the Dogger Bank and vicinity during the coming season for the supply of the English markets. As the fish are in better condition than those taken by trawls, it is evident that the plight of the English trawling industry is likely to be worse this summer than it was last.

Some years ago Mr Austen Chamberlain was Postmaster-General, and he often tells with a smile how, on taking up his duties, he entered the room of one departmental head who was taking an afternoon nap. An embarrassed clerk woke him up, announcing—"The Postmaster-General, sir" In a sleepy way the official replied—"Ah, how do you do, Mr. Raikes?" The point is that Mr. Raikes had been dead 10 years.—Fishery News, Aberdees.

EQUIPPED WITH DENSIL ENGINE

The Revillion Freres Trading Co. Ltd. have purchased a wooden three masted schooner of 400 tons deadweight capacity, now under construction at Liverpool, N. S. This vessel will be used to take supplies to the company's trading posts in the Arctic, and will be away for about four months on this service. She will be installed with a Densil semi-diesel engine of 100 B.H.P., which should give her a speed of seven or eight knots.

The Densil is a new engine so far as Canada is concerned, and is being placed on the market here by The Crude Oil Engine Co. of Canada, 14 Place Royale Montreal. It is of the two cycle low compression type, and this particular model will operate on a consumption of about six gallons of crude oil per hour, which will certainly make this vessel a very economical job to run.

That this engine has been chosen for such a strenuous service, which entails a strict schedule with no allowance for delays, is a distinct compliment to the Danish makers, and there seems every reason to believe that this will be an attractive type of engine to the Canadian fishing industry.

Poor Fishing Results in February

Weather conditions were not favourable for sea fishing during the month of February, with the result that there was a falling off in the quantities of salt water fish landed.

The total catch on both the Atlantic and Pacific Coasts was 151,585 cwts., valued at $423,218 at the vessels' or boats' side. During the corresponding period in the preceding year 166,751 cwts. were landed valued at $591,030.

The total quantity of cod, haddock, hake and pollock landed amounted to 28,351 cwts., while during February last year 32,207 cwts., were caught.

The catch of smelts on the Atlantic Coast was slightly greater there, being 18,498 cwts taken compared with 18,247 cwts. in the same period last year.

Very few lobsters were taken and most of the traps were hauled up owing to the rough weather. Since the commencement of the season 6,175 cwts. have been taken against 7,448 cwts. in the same period last year.

On the Pacific Coast decreased catches are shown. 14,232 cwts. of halibut and 76,970 cwts of herring were landed compared with 22,468 cwts. and 79,196. cwts. respectively in February of last year.

One man was reported drowned on the Atlantic Coast during the month.

HOUSE COMMITTEE ON FISHERIES

In the House of Commons on March 23 the following were named members of the standing committee on marine and fisheries, William Duff of Lunenburg being subsequently named chairman: Bancroft, Cardin, Chsholm, Delisle, Dickie, Duff, Elliott (Waterloo), Fournier, Gauvreau, Grimmer, Hatfield, Hoay, Hubbs, Hughes, Kennedy (Port Arthur and Kenora), Kyte, Lapointe, Leger, Le Seur, MacLaren, MacLean (Prince) McKenzie, McLuarrie, Marler, Morrisy, Munro, Pelletier, Putman, Ross (Simcoe), Savard, Spencer, Stansell, Stevens, Stewart (Humbolt) Turgeon and Wood, numbering thirty-six.

Makers of Barrels and Kegs Well Known to the Industry



It will, no doubt, interest the fishing industry of this country who are such large users of cooperage stock, to read a brief description of the method of manufacture and the facilities of one of the largest tight cooperage industries in Canada, the Canadian Barrels and Kegs Limited of Waterloo, Ontario, who were formerly known for years as The Charles Mueller Co., Limited, of that city.

This firm owes its origin to a little hand-shop which was started by Charles Mueller Sr., in Waterloo in 1872 and which was extended from year to year until to-day they have one of the best equipped and most modern plants to be found anywhere in America, with a capacity of 1500 to 2000 barrels per day.

Both the Canadian Pacific Ry., and the Grand Trunk Railway have sidings right at their doors, which enables them to serve the large territory they cater to, in the most expiditious manner, having facilities in fact to load eight carloads of barrels simultaneously.

A feature of this business is the extraordinary care that is taken to use only thoroughly dry material, and they have developed an elaborate dry-kilning system, whereby they can dry eight carloads of material simultaneously, and in addition have storage sheds where they continually maintain a reserve of dry material of anywhere from 50 to 100 cars of staves and heading. Customers can always rely on receiving barrels made from material which has first been thoroughly dried.

In looking over their plant, the most economical and labor-saving methods are to be seen. For instance, when their material is loaded out of the cars, it is placed on trucks running on steel tracks, and these tracks form a net-work throughout the entire plant. Once the material is placed on these trucks, it can be easily transported wherever it may be required, be it in the yards, through dry-kilns, or in storage sheds, until the trucks find themselves beside the machines which turn them into finished containers.

In spite of reverses which most cooperage firms have met with in recent years, this concern, has continued to improve their facilities for making barrels,and is still going strong today. They are particularly proud of their well known, harwood mackerel and herring barrels and maintain that if the entire fishing industry were to use these sturdy containers, the packers would have far fewer troubles and be better off in the end.

In recent years quite an extensive export business has also been developed, and special methods of packing barrels in knocked down form have been devised whereby barrels can be transported on ocean liners with a minimum of space occupied.

They report a fair increase in orders since March 1, and are looking forward to a very fair year's business.

Erie Fishermen to Sell Co-Operatively

Company formed with $40,000 capital to look after marketing of fish produced along Lake shore — Plan has many possibilities.

Fishermen and fish merchandizers in all parts of the country will be interested in the action that has been taken by a certain section of the fish producers of Lake Erie. A step has been made for the formation of a co-operative selling company and application has been submitted for a charter under the co-operative section of the Ontario Companies Act. The company, which will be known as the Fishermen's Co-Operative Association Ltd., will be capitalized at $40,000, divided into four hundred shares at $100 each and the head office will be located at Windsor, Ontario. Space has already been procured in the new premises of the Essex Provision Co. Ltd., for a distributing warehouse and freezer.

Those making application for a charter are A. S. Brown, president of the Lake Erie Fishermen's Association; Harry Dromgole, Wallacetown; Ed. Koehler, Wallacetown; George Van Order, Port Burwell; A. Misner, Port Burwell; E. E. Haviland, Ed. Shipley and A. E. Crewe, Merlin. The company has already engaged as manager, A. Danto, who carried on a wholesale and retail fish business in Detroit for a number of years.

It is understood the action taken by Erie fishermen has been the upshot of conditions referred to editorially in the March issue of the Canadian Fisherman. For many years individual shippers have been suffering considerable losses in dealing with unscrupulous buyers across the border. It seemed that there existed an understanding among a certain class of purchasers there to 'do' the Canadian producers as freely and as extensively as possible. The result was a heavy toll upon individual profits and, inasmuch as the practice was more or less general, individuals were incapable of coping with the situation.

During the convention of the Lake Erie Fishermen's Association at St. Thomas in January last the question of co-operative organization for mutual protection was discussed at length. Naturally there was not unanimity on the question because a few producers have established trade connections on the other side which are reliable. Those connected with the new movement are deserving of credit for taking hold of the situation promptly and their undertaking will prove worth while if it accomplishes nothing more than breaking down the present system of controlling the business from the purchasing end rather than the producing end. Of course co-operative selling has much more to commend it and the experiment is fraught with many possibilities. For example there was a great variation last season in the price received by producers for their whitefish. This may be overcome and the business properly stabilized by regulating the supplies going into the different United States centres. Without some understanding producers may be dumping their fish into one market, glutting it and automatically depreciating the value of their commodity. At the same time some other market may be short and only the one thoroughly in touch with the situation can take advantage of higher prices prevailing there.

If a man is extensively engaged in the fishing business it requires his whole attention to look after his production. He has not the time nor the facilities at his disposal to study his markets. Consequently he is more or less dependent upon chance, which inevitably means that he is at the mercy of buyers across the border—or a certain class, at least—who obviously have some understanding among themselves. It will be the business of the company's office at Windsor to keep in touch with the different markets and make sales to the very best advantage. Last year, it is reported, there was a difference of as much as ten cents per pound in the price paid to different producers for whitefish. This, naturally, means an aggregate loss to the fishermen and an aggregate gain to the U. S. buyers.

Returns Control of Markets

There seems to be every reason why the project should succeed. Theoretically, at least, it provides the instrument for recovering control of the markets. Cooperative undertakings in other branches of industry such as farming, dairying, fruit marketing and in numerous other directions, have met with unqualified success. This is particularly true of the fruit growers in British Columbia, California and the Niagara Peninsula. Statistics published some time ago by various western United States co-operative organizations have shown what remarkable development has been accomplished as regards increasing and stabilizing prices and improving the individual position of members.

The Lake Erie movement, it appears, is merely a selling proposition. At the present time this is the chief interest, but elsewhere the co-operation is extended to buying of material required by the individual members, and in this respect results seems to have been as effective as in selling. Whether it is possible to apply this feature in a fisheries co-operative movement, it is difficult to say. Many things have to be taken into consideration, chiefly the divergent needs of different localities.

As far as the writer knows, the step taken by the Erie people is the first co-operative selling movement adopted in any branch of the Canadian fishing industry, excluding the loose arrangement among the British Columbia salmon canners when they sent Lt. Col. Cunningham to the old country to stimulate demand for their pinks and chums and accelerate the movement of large stocks of these varieties from their warehouses. Doubtless fishermen and fish merchandizers in all parts of the country will follow with interest the progress of the Fishermen's Co-Operative Association Ltd.

An Element Worth Noting

An element that is worthy of attention is that this particular co-operation is for the purpose of improving the situation of the Canadian industry in a foreign market. We do a considerable fish business abroad, having no fewer than forty-three buyers who take as high as two-thirds of our annual production. Other selling countries, particularly Norway, have adopted co-operative schemes for getting into outside markets. Not long ago Norwegian canners carried out an extensive publicity campaign in South Africa which, by the way, is a market of considerable importance for our canned fish. What nature of co-operation the canners employed in the actual selling, the writer is unable to say. Just

Fish News from the Great Lakes Area

Toronto Merchant ascribes much of post-Lenten slump in trade to inability of country folk to make purchases.

The past week, following the Good Friday trade in Ontario markets has been extremely quiet, as was expected. None of the dealers expected heavy sales, but it could not very well have been any quieter and supplies were very light.

At the present time, there is no great quantity of Lake fish being produced, with the exception of Pike and Perch, which are mostly consumed by the Jewish trade. The public demand seems to be for fresh Trout and Whitefish but there is practically nothing arriving so far and what few fish have been delivered to the Ontario market, have brought fancy prices.

The Winter's business has been rather a failure. In the first place, prices at producing points were fairly high and just at the time of the year when most of the wholesale houses should have been making money, prices slumped until they were selling on a cost or less than cost basis and as the margins at no time were vry large, it did not leave very much surplus to work on. However, one healthy condition is that most of the fish are cleared up and that there is not any very great hang-over in the hands of the dealers, which means that they will start out in the Fall of 1922, with a fairly clean sheet.

The worst condition, apparently, remarked by the various dealers, was the fact that the country trade was very poor throughout the Winter. This was very readily accounted for by the fact that the farmers were forced by prevailing conditions to sell their product at less than cost in a good many instances and they were in no mood to buy anything more than absolute necessities. It must be remembered that the farm communities are fairly heavy buyers when times are good and their absense from the market made a big hole in the possible outlet of frozen fish.

Another feature of serious proportion was the extremely low cost at which meats were being sold. There were times in the Winter when the finest stewing beef could be bought at almost any retail store around 10 cents or 12 cents per pound and it is not very hard to figure out that the working man, hit by prevailing conditions and working on part time or not working at all, would find no difficulty in deciding that he could not afford to buy fish when he could have meat at these prices.

Freight rates are still too high. It makes a tremendous difference in the cost of bulk products, like fish, which have to be carried from the two Coasts to this market. In this respect the meat packers have a great advantage as their goods are produced fairly close at hand.

Generally speaking, however, the trade is rather cheerful when it contemplates other industries that have met with absolutely shocking losses, and are looking forward to something like normal conditions in the near future.

(Continued from previous page)

before the South African campaign the Norwegian canners of bristlings and other small species popularly styled "sardines" carried out an effective publicity campaign in Australia. Previously the Australian people used large quantities of Portugese sardines, but as a result of the campaign, Norway captured the entire business and it is said by trade authorities that today the Portugese brands are not on sale at all. Men in the export business are familiar, too, with the effort being made by the progressive Scandinavians to get more business in the dried codfish markets of the West Indies and North Brazil. The tactics employed quite clearly demonstrate a good measure of co-operation on the part of Norwegian producers.

These instances are cited for the purpose of indicating the trend of affairs. While we may or may not agree with the principle of co-operation as applied to every specific business it is well to know what our competitors are doing. If they are joining forces and pooling their resources, there is a question whether their system can be effectively combatted by individual action. Possibly a good many in various branches of the industry have been attracted by recent developments of this nature and many may have given time and study to the situation. A thorough airing would certainly do no harm, and the *Canadian Fisherman* would welcome contributions, pro or con, bearing upon the issue.

PROPOSED MINIMUM SIZES FOR FISH

As a result of a conference at St. Thomas between Commissioner Prince, representing the Federal Government, A. W. McLeod for the Province of Ontario, and H. A. Short for the Lake Erie Fishermen's Association, the following recommendations were agreed upon among others:

Fish not to be taken below these sizes:

Blue Pickerel	11 inches
Yellow Perch	9 inches
White Bass	9 inches
Sheep heads	12 inches
Carp	3 pounds

Ciscoe and Lake Herring in Lakes Erie and Ontario to be not less than 8 ounces. This is now 6 ounces and the suggested higher limit is for the two lakes only.

The provincial regulation of 42 inches minimum for sturgeon to become a federal requirement.

Gill nets to be not less than 3" mesh for ciscoes and herrings.

The report of agreement signed by the three conferees is now under consideration by the Dominion government.

PORT STANLEY FISHERMEN PUT NETS IN TOO SOON, IS CHARGE

Seven prominent fishermen of Port Stanley, Lake Ontario, were recently summonded to appear before County Police Magistrate Hunt on charges of violating the Ontario Game and Fisheries Act in commencing operations without first having obtained the necessary commercial fishing license.

The plight of the fishermen was brought to the attention of the Ontario legislature on March 27 by Hon. G. Howard Ferguson who said he understood from a Press despatch the men were to be prosecuted because they went fishing before their licenses arrived. though the money for them had been sent in to the department long before.

R. L. Brackin, West Kent, supplemented this information by saying that the money had been sent in on March 14 and acknowledgement received by the fishermen from the department on March 16. They started to fish on March 16, and licenses arrived on the 17th or 18th.

Hon Harry Mills stated it was not the intention of his deparement to press charges against fishermen at Port Stanley who placed nets out after March 15 of this year, but charges would be pressed against two fishermen who are said to have placed out their nets on March 15. The Minister emphasized the ruling of the department that the fishermen must be in possession of fishing licenses before they placed the nets.

SALE OF FISH UNDER MUNICIPAL LEGISLATION

Bill No. 117 entitled "An Act to amend the Municipal Act" was introduced in the Ontario Legislature by Mr. Homuth of Waterloo and is now in the committee stage.

The object of the act is to bring the retail sale of fresh fish under the control of this municipality. Mr. Homuth assured your correspondent that the only intent of the bill is to enable the municipality to supervise the conditions under which fresh fish are sold, having due regard to cleanliness and sanitation.

The bill seeks to amend paragraph 1 of section 419 of the Municipal Act to read as follows, the added words we place in italics—

(1) For regulating the storage, handling and sale of fresh meats **and of fresh fish and** prescribing the equipment and appliances necessary to conduct such business under sanitary conditions, and for granting annually or oftener licenses for sale of fresh meat in quantities less than by the quarter carcass **and** of fresh fish, and fixing and regulating the places where such sale shall be allowed, and for prohibiting the sale of fresh meat in less quantities than the quarter carcass **and of fresh fish** unless by a licensed person and in a place authorized by the council.

(a) The power conferred by paragraph 1 shall not be affected or restricted by anything in section 402.

(b) Nothing in paragraph 1 shall affect the powers conferred by paragraphs 3 and 4 of section 401.

(c) The fee to be paid for the license shall not exceed $50 in a city $25 in a town or village.

INTRODUCTION OF PACIFIC SALMON IN THE GREAT LAKES

The fish Culture Branch of the Department of Marine and Fisheries at Ottawa has been endeavouring to establish the spring or quinnat salmon of the Pacific, the largest species on that coast, in the waters of Lake Ontario, since the spring of 1919.

Last autumn as a result of the planted, the first specimen of this species, so far as the Department is aware, was taken in the Bay of Quinte. It was 33" long, weighed 3½ pounds, a male, and in spawning condition. An examination of the scales showed it to be in its third year, which would indicate that the fish was the result of the first distribution made in 1919 The indications are that this splendid food fish will become established in its new environment, and will be a great addition to the already valuable fisheries of Lake Ontario, which are being largely maintained by hatchery work.

ISLANDERS PREPARE FOR LOBSTER SEASON
By "Bud"

The fishing centres of Prince Edward Island present a very busy appearance during the months of April and May, and indeed, the same might also be said of the previous months, as it is then that the fishermen are getting out their lobster-trap material, cutting trap bows, building traps, and, with the aid of the women folks, knitting lobster-trap heads.

On April 26, they run their lobster-trap lines. This is a gala day among the fishermen, each one trying to get his lines on a certain part of the fishing grounds first, but as they are not allowed to run their lines before day light this gives each fisherman an equal chance although they do occasionally get left, and have to seek new ground, sometimes, in their hustle and hurry, they run their lines over someone else's, and this causes no small amount of ill-feeling, especially among rivals. As a general rule, one of them is willing to shift his line, but when stubborness instead of fair-play rules, then the line is very often cut clear, and let drift with the tide.

The successful Fisherman, must be, up and away, at break of day, and must attend to both lobster traps, and herring nets. Thus he is kept on his tack.

Much good is being done in demonstrating to the fisherman, the indiscretion of catching spawn (berried) and small lobsters. There are some, through few, I am glad to say, who are not yet, farsighted enough to see, that by so doing; they are killing their own futures and depriving themselves of their liveli hood. Time was when the lobsters, when brought in to the canning factories, were at once dumped right into the boiling vat, and when turned out into the cooler, it was no unusual sight to see from three to half a dozen large spawn lobsters on the cooler. But this is now a thing of the past. The lobsters when brought in from the boats, are now picked over before being put into the boiler vat. And if any small or spawn lobsters are found, they are removed and the fisherman's name is taken.

The lobsters thus picked out are then weighed, and this amount is deducted from the fishermans catch, and the spawn and small lobsters, while still alive, are again returned to the sea.

PACIFIC COAST SECTION

Water Route A Big Money Saver

H.F. Taylor, of the division of fish industries, recently visited and inspected at the wharf in New York City the steamship *Neponset*, a large refrigerator ship of the Elder Steel Steamship Co. and a sister to the steamer *Deerfield*, which landed a cargo of frozen fish, from Seattle via the Panama Canal in January. The *Neponset* docked February 22 with a cargo of frozen fish, mostly salmon, steelheads, halibut, mild-cured salmon, with other perishable freight, including apples, lemons, etc., this landing representing the second trip made in this newly instituted trade.

The *Neponset* (and also the sister ship *Deerfield*) is of 7,622 gross register, or 11,500 dead-weight tonnage, and 410,000 cubic feet capacity, all insulated with cork and mineral wool. She is 450 feet long over all, with 57-foot beam. She can make 12 knots, and has an average of all trips to date of 10½ knots, the trip from Seattle to New York requiring about a month, including stops. She can carry about 6,000 tons of frozen fish. Fuel oil is used, with four boilers, one of which is sufficient to operate the refrigerating machinery.

The vessel's refrigerating equipment consists of three 80-ton single-acting carbon dioxide compressors, direct-connected, double-expansion steam driven. The condensers are of copper tubes submerged in sea-water tanks. The brine cooler evaporators are identical with the condensers, except that iron pipe is used instead of copper. Circulation of calcium choride brine is provided in such a way that each section of coil in each room is independent and can be operated and controlled from outside the holds, and each section has its own thermometer. The holds are piped for brine overhead and on all sides, it being possible to maintain a temperature of from—20deg. to +80deg. F. Temperature at the time of visit was about 12deg. F. The weight of the refrigerating machinery, insulation, etc., is about 1,700 tons. The fish cargo was all boxed, and appeared to be in first-class condition, the holds being cold, dark, and dry. The fish, so far as examined showed no drying or rust.

The freight charges on fish from Seattle to New York are 1¾ cents per pound, or $35 per ton, plus certain charges which bring the total to $37.20 per ton. Corresponding railroad charges between the same points, including icing en route, are said to be $57.83, which, if correct shows an apparent saving of $20.63 by steamer transportation. The disadvantage is, of course, in the longer time of delivery, which must be considered in connection with the very safe preservation en route. Transportation at reasonable rates is a matter of acute interest to the fisheries at present, and for that reason the inauguration of this new service is timely and important.

Col. F. H. Cunningham Returns from England.

After spending a year in England putting forth his best efforts on behalf of British Columbia salmon and especialy in connection with the marketing of the canned pink variety, Col. F. H. Cunningham, formerly Chief Inspector of Fisheries for the Dominion government in British Columbia, has returned to Vancouver.

Colonel Cunningham accomplished much in his endeavor to place pink samon before the British public. His displays at food exhibitions and moving pictures of the British Columbia fishing industry kindly loaned to him by the kindness of Hon. Wm. Sloan, Commissioner of Fisheries for British Columbia, attracted enormous crowds who were very attentive to the lectures, and the pictures commended a great deal of attention. Much educational work was also accomplished among the retailers as well as among the general public.

That this work should be carried on there is no doubt in the minds of those who are interested in marketing pinks and it is to be hoped that the canners will keep Colonel Cunningham on this work for at least another year, and back him up with publicity that will result in a permanent market for pink salmon in the British market.

Finish of Welsh Tin Shipments Almost in Sight

When the Holland-America S/S. Noorderdijk arrives in Vancouver the latter part of April the shipments of Welsh tin into British Columbia will have been nearly completed. There were about 10,000 tons of Welsh tin ordered at the first of the season for the fish and fruit canning in the province and with the arrival of 2000 tons on the Eastern Prince and S/S. Noorderijk with 2500 tons, this nearly cleans up the order.

Spring Halibut Season On The Pacific Coast to Open Soon.

The Pacific Halibut fleet is getting ready and outfitting for the 1922 fishing season. The outlook is anything but bright for good prices this year. There has been a big catch of halibut during a season when as a usual thing fresh halibut are scarce and the result has been that prices have been low accordingly.

Vancouver Visitors.

Jack Sinclair, of the Sinclair Fisheries Ltd., of Prince Rupert, passed through Vancouver about the middle of March after a business trip through the United States and Canada.

Harry Numan, Resident Manager of the New England Fish Co's., plant at Ketchikan, Alaska, was in Vancouver the middle of March on his way South for a holiday.

R. J. Davis, Superintendent of the New England Fish Co., on the Pacific coast, has just returned after spending three months at Ketchikan, Alaska, where he has been superintending the building of an addition to the company's ice plant.

Spring Salmon Scarce On West Coast Vancouver, Island.

Up-to-date the catch of spring salmon on the West coast of Vancouver Island has been small but those who have followed the catches during the past years state that prior to the year 1920 the season did not really start until about April 1st, during 1920 and 1921 the season started right after the first of the year. It looks as though this year the season would start about the 1st of April as in previous years.

Oriental Salt Herring.

The Oriental salt herring is practically off the market and although this season has not been any better than 1921 as to actual results there is no doubt that a large share of the business was handled by the white

firms than was the case last year. It is to be hoped that this share will be increased yearly from now on and that the white packer may ultimately control this branch of the industry in British Columbia. Approximately 15,000 tons were packed, including Barcley Sound and Nanaimo herring. The average price was 40 C. I. F.

Vancouver Wholesale Fresh Fish Market.

Halibut.—Has been in good supply and selling at 14c. for chickens and sixteen for mediums.

Cod. — Closed season on this variety for Gulf of Georgia ended on March 15th. During the closed season there was a considerable quantity brought in from the West coast of Vancouver Island and other points outside of the closed area. This supply was sufficient to keep the price at a reasonable figure but now that the closed season is over there has happened to be some bad weather and the price on fresh caught fish is 15c. The average price has been 8c.

Soles. — This variety has been fairly plentiful with the price at 8c.

Herring.—Closed season for herring. Fresh off the market.

Oolachans. — Fresh Columbia River oolachans are selling at 8c. per lb.

Salmon. — What few salmon are coming into the market are selling at 25c. per lb., dressed heads on.

Fish Meal and Oil Market.

The market for fish meal and fish oil is looking more healthy than it has for a long time and there is a demand that is increasing in a most encouraging manner. The Rendesvous Fisheries Ltd., is the only rendering plant that is in operation at the present writing.

New Fish Meal and Oil Plant About Ready to Operate.

The Nanaimo Fish Meal and Oil Company which is operated by J. Jardine has nearly finished its new plant, which will replace the one that was burned some time ago. The new plant is up-to-date in every way and will be turning out a finished product very soon.

Rendezvous Fisheries Ltd., Have Added to Their Plant.

Having just added materially to their plant equipment and with a new wharf just finished the Rendezvous Fisheries Ltd., are in a better position than ever to turn out fish meal and oil. The new wharf has a 500 foot approach with creosoted piles and is built to last a long time. This plant is located on Rendezvous Island in a first class locality for the securing of dog fish and, when the salmon canneries are running, for the securing of a large quantity of salmon offal.

Mr. Victor Johncox, general Manager of Rendezvous Fisheries Ltd., was in Vancouver during March on business.

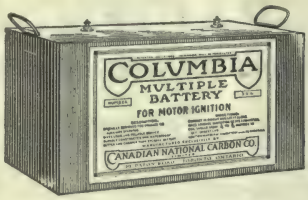
Mr. J. W. Nichols of Prince Rupert in Australia.

Mr. J. W. Nichols, Comptroller of the Canadian Fish and Cold Storage Co., of Prince Rupert, left on a holiday trip to Australia during February.

Fresh Halibut Catch has been Averging Good Each Month at Prince Rupert.

An interesting item in connection with the year's catch of halibut of 24,000,000 lbs. is that every month sustained a good average and this even held good in January and February this year. Fortunately the refrigerator car service has been brought up to the point where this large catch can be taken care of properly.

To take care of the increased business, the Canadian



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Fish and Cold Storage Co., Ltd. is enlarging its ice plant to enable it to turn out 30 tons more ice per day. This will be completed by June and then the capacity will be 100 per day.

Canneries In North Beginning to Get Ready for Season's Operations.

The British Columbia Salmon Canning firms who have canneries in Northern British Columbia are now preparing for the season's work. At all the Vancouver offices these are busy days getting the crews lined up and in some cases they are already heading north. north.

Practically every company will operate the same equipment that was in operation last year and if anything there will be a larger pack of pinks than last year. Sockeyes will be packed to the limit and probably springs. As to chums it is uncertain what will be done as this is a fall fish and there is a tendency to watch conditions before deciding on any large increase in the pack of any variety other than sockeyes and of course the canneries will pack all they can get of these.

Trolling Licenses West Coast Vancouver Island Reduced.

On the West Coast of Vancouver, in District No. 3, the number of licenses for trolling that will be issued this year to other than resident white British subjects and Indians will be reduced by one third that is, the number to be issued will be 330 instead of 495 as was issued in 1921.

F. E. Burke, Represented B. C. Fisheries Interests at Ottawa Recently.

Mr. F. E. Burke, Managing Director of the Wallace Fisheries Ltd., and Chairman of Vancouver Branch of the Canadian Fisheries Assn. was in Ottawa during March along with other British Columbia delegates on matters relating to the Pacific Coast.

Alaska To See A Revival of Scotch Cured Herring Industry.

At Evans Island, Alaska, near La Touch, a new Scotch-cured herring plant will be opened this year and other plants will be in operation when the season opens in May.

It is estimated that the output of Scotch cured herring from Scotand will be way below normal this season and for this reason it is expected that there will be a big demand for the Alaska product.

New Zealand Will Use B. C. Salmon if it is More Widely Advertised.

A visitor from New Zealand, who was in Vancouver recently, was W. A. Boucher, who stated that more of the lighter grades of B. C. salmon would be used in New Zealand if they were more widely advertised. This is a suggestion for the salmon canners of British Columbia and it is to be hoped they will get together with the jobbers in New Zealand and try out a little publicity.

Hon. Wm. Sloan Interested in Transfer of Fisheries of Quebec.

Hon. William Sloan has communicated with the Dominion Government regarding the recent order-in-council transferring the control of the fisheries of that province from the Dominion government to that province. The British Columbia Commissioner of Fisheries was very much interested in the order and anxious to know just its meaning and scope.

Japan Big Salmon Competitor

The Japaneese salmon industry is of great interest to Canadians owing to the fact that Japan is now putting up a large pack every year and becoming a formidable competitor in the British salmon market. The waters where the largest quantities of salmon are caught are a long the shores of the northern Saghallen and at the mouth of the Amur River, where it is said that in the year 1913, the last for which reliable statistics have been published, some 47,600 tons of salmon, raw weight, were caught. The northern waters off Kamchatka are, however, more abundant in salmon, and can show a greater variety than any other. The fishing season usually lasts from June to September.

WHERE TROUT MAY BE SCOOPED UP WITH HANDS.

Tells of fishing in Northeastern Ungava where Eskimos use net of five-inch mesh to take trout!

How prolific in fish some of the rivers in our north country must be! What a paradise for sportsmen! Can you imagine catching trout in nets of five-inch mesh? Can you think of picking big beauties up in handfuls—two barrels in two hours? Yet away up in the virgin waters of Ungava near the Labador frontier, where the hand of commerce has but slightly troubled the natural movement of pristine life, such are the conditions.

Sergeant J. E. F. Wight of the Royal Canadian Mounted Police, who is stationed at Port Burwell, Ungava, recently visited a bay in this district which the Eskimos call "Ikubliayok" or Calm Bay on account of its being well sheltered from the wind by high encircling hills. But let him tell the story himself.

"On landing to make camp we discovered two Eskimo families camped on the beach. They had been employed for a few days fishing trout and had twenty barrels salted down.

"As it was then quite dark we made camp. Next day being Sunday and raining heavily I did not move about much but on Manday I visited the natives where they were gathering trout. They fish with nets set out in the lake and each woman attending the nets kept a man on shore busy splitting the fish brought in.

"The nets are of a five-inch mesh and only catch the larger fish and all are of a uniform size. Ford and myself took a small flat boat and went up one of the streams which terminated at a small lake of fresh water about a mile and a half from the bay where we made camp. All the way along, the stream was filled with trout on their way up to the lake. The water ranged from eight inches to three feet deep.

"At a shallow place are still the remains of Eskimo fish traps made from stones, which were used previous to their obtaining nets. The traps could still be made serviceable. These traps do not interfere with the trout going up stream but one can drive the fish among the rocks along the sides.

"On landing to make camp we discovered two Eskimo boast on a rock and caught two barrels of large trout in less than two hours with our hands among the rocks."

BLESSED ARE THE MEEK

They were enjoying a motor ride and had just entered a country road. "May I kiss your hand?" he asked a little confusedly. She removed her motor veil.



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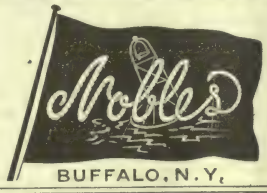
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Official Organ of the Canadian Fisheries Association

VOL. IX GARDENVALE, P. Q., MAY 1922 No. 5

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-:- EDITORIAL -:-

JAMES H. CONLON, Editor

TOO MANY LOOSE ENDS

It has always been our contention, and in that regard we feel certain that we reflect the attitude of commercial fishing interests generally, that proper contact is not established between those who administrate the affairs of the industry from a governmental standpoint, those who employ their time and knowledge investigating scientific problems, and those engaged in the business of catching and merchandizing fish. Speaking generally, these various departments pursue their courses independently and frequently, all too frequently, they do not take the same direction. We wonder what success would result in such establishments as the Westinghouse and Edison plants were the departments of administration, production, sales and science permitted to expend their energies and genius as they desired and without proper cognizance of the doing of the others? In the case of these great industrial institutions is it not obviously the fact that everything depends upon sales; that production follows and that the laboratory staff is maintained for the sole purpose of improving the utility and the sales appeal of the commodity or facilitate production? The scientist, in other words, is an important factor to enable the industry to maintain itself in competition with other plants in the same field.

That is exactly the relationship which should apply in the fishing industry. The success we make of the extensive resources placed at our disposal will be measured by the cold hard cash they produce, and the dividend each year depends upon the success with which we meet competition. How are we meeting it now? Is our cured cod of as good a quality as that produced by competing states? Is our pickled herring as good? Are other varieties of fish the acme of quality? Have we materially developed the industry in recent years—that is, disregarding inflated war prices and inflated war demand? May we hope to improve these conditions with our administrative department, our sales department, our producing department and our laboratory staff all working on independent programmes?

In Germany in 1919 a Sea Fishery Institute was established at Greestemunde with the object, as the Fish Trades Gazette puts it, "of bringing into closer contact than previously was the case the practical, scientific and technical sides of the fishing industry." A director was appointed, a museum and library established, weekly demonstrations and many lectures arranged for, and other measures adopted to bring the various sides of the industry closer together and to disseminate useful information. In November of 1920 the institute held a "sample exhibition" of articles in connection with the sea fisheries, the fish trade and the fishing industry generally. It was in all respects successful and resulted in many business transactions to the mutual benefit of those concerned. It was in part owing to this success that it has been decided to hold annually a German Fishery Fair, which will include not only an exhibition of commercial products, but addresses and demonstrations, trawling expeditions, visits to the Fishery Biological Institute at Heligoland and even a regatta on the Weser.

And in connection with the progressive attitude of those people concerned it is extremely interesting to observe that the fish production of Germany in 1920 was greater than in 1913 despite the loss of coastal territory involved in the surrender of Danzig, Memel and Schleswig under the terms of the peace treaty. In 1921 there was a considerable falling off but even then the total volume was but slightly below that of 1913.

It is interesting, too, just here, to note what other countries, particularly in Scandinavia, are doing. Norway is meeting losses on cod cured according to standard quality in order to assist producers to meet competition until international economic affairs are adjusted. Sweden is assisting her fishermen to get boats equipped with the Danish-seine in order that they may reach the English market. France and Denmark bonus exports under certain conditions. These observations by way of diversion.

Now for our system. The fisheries administration has an extremely loose connection with the Biological Board of Canada which investigates scientific problems. It is even more nebulous than that which exists, in a practical way, between the administrative officers and the trade generally. The chances of our scientists coming in contact with the practical problems of our producing and selling organizations are, therefore,

very remote, and too frequently, it appears, scientific explorations have but a hazy association with the things that are worrying the commercial branches of the industry. Would a closer co-operation not be to the advantage of all? Could the knowledge and ability of our laboratory not be more profitably applied? And would the administrative problems which crop up so frequently not lend themselves more readily to solution by a little light from the practical fish producers and merchandizers who are most intimately concerned with their consequences?

COLD STORAGE THE GOAT

After hearing certain speakers on parliament hill and after perusing a certain type of proposed legislation we are frequently impelled to ask ourselves the question: Do some of our parliamentarians talk as a feeble effort to give the country $4,000 worth in the form of clap-trap literature officially recorded in Hansard, and submit bills simply to give constituents the impression that they are really doing something? If the thousands upon thousands of words spoken each year in the House of Commons and senate were classified, what proportion, we wonder, would be found to be reasonable, logical and justified by the circumstances of the time or occasion? A great defect in our system of government seems to be that our parliamentary representatives spend too much time playing politics, usually trivial, and too little in serious affairs.

If the bill recently introduced in the senate to amend the Cold Storage Warehouse Act was the product of a careful and serious study of conditions, then those responsible for it should leave investigations of this sort to people more familiar with the question. The bill referred to shows evidence of having been constructed on theoretical notions with an ear and a half cocked to hear the boisterous plaudits of the multitude who are egged on to believe that the cold storage is a demon which robs money from their purses and food from their stomachs. This has long been the popular fancy. Were it true we should be among the first to demand redress for we pride ourselves that we are of the class variously referred to, sometimes as the "common people," sometimes as "the consumer". Such being far from the case one may be excused for losing patience with legislators who attempt to agitate this misunderstanding. No doubt there are certain evils existing, but they are the exception, not the rule. The cold storage has been a boon to civilization, but it is not surprising that the masses of the people still regard it with disfavor when those who should know better cling to the same opinion.

It is not necessary here to speak of the merits of refrigeration as a preserver of food. Elsewhere one of our correspondents has discussed the issue from the standpoint of fishery products. With slight variation the arguments apply to other commodities which utilize this agency of preservation. We can hardly be as liberal as the editor of the Montreal Gazette who says, in effect, that the honorable gentleman who brought in the bill meant well and that, at any rate, it would afford an opportunity for honorable gentlemen to discuss the question. When a citizen of this country reaches the stage where his political confreres consider him eligible for the red chamber he should have passed the period where his judgment leaves him exposed to such a rebuke as the Gazette's. In other words, when a fellow grows up he shouldn't have to be spanked and put to bed.

STANDARDIZED COD

Reference was made in our last issue to legislation in Norway, effective on May 1, compelling the curing of cod according to fixed standards and under government inspection. More recently the government of Iceland has passed a law prohibiting the export of fish from that country except under government inspection. There is no restriction as to price but exporters must have all shipments inspected and branded as their quality merits. During the past winter emissaries from Iceland have been sojourning in the various markets of Europe making a study of the requirements of each and the legislation above referred to has been the outcrop of their representations. And the government was enabled to move with confidence in view of the fact that these investigators were all thoroughly practical men including two long-trained in the export business and ten expert cullers.

Heretofore Norway and Iceland have been formidable rivals for trade in the markets which consume salted codfish, and it has been no secret, at least to foreign buyers, that their product, as a general rule, has shown a higher standard of quality than ours. Logically Canada should have been the very first to compel her curers to prepare and grade their product according to fixed standards. Not only have we neglected to do this but we continue to delay that action which Norway and Iceland, already producers of a superior quality to ours, have found necessary.

It is too often urged in Canada in connection with proposed legislation that "the people are not ready for it." It is difficult to comprehend just what that means. If we are to wait to introduce standardized cod until each and every fisherman and curer in the business sees the urgency for it, our fish is going to present a pretty spectacle in competition with standardized Norwegian fish. Legislation is, or rather should be, designed to do the greatest good for the greatest number. There will always be found individuals who will suffer in pocket for the time being, but this trade is valuable to Canada and we must exert an effort to retain our legitimate proportion.

It may be advanced that the compulsory standardizing of our competitors' fish may have the effect of improving the quality of ours. We doubt if that contention will hold water. Since the return of Europeon competition in the West Indies and South American markets, has the quality of our fish improved to meet that of other countries? Is it likely to improve in the future unless a strong hand is used? Our very system of marketing does not place this moral responsibility on the man who must sell the fish. The responsibility comes where it is just a matter of dollars and cents—indifferent cure, just good enough to get by—where the policy seems to be to get the maximum of return for the minimum of care. The actual exporters are alive to the situation and even a reward in the

form of fifty cents to a dollar per quintal more has failed to stir those responsible.

The course is clear. There is no alternative to obscure the path. Our exporters who handle our foreign trade must be armed with a superior commodity if they are to be protected from discouraging rebuffs. They are incapable of overcoming the evil themselves except in a few instances where the curers are employees of the exporter. We are a bit late with our standardized cure but better late that never.

PISCATORIAL NOTES

The possibility of a winter mackerel fishery is suggested by Dr. A. G. Huntsman. The offshore investigations he advises should be undertaken because the theory, if correct, will develop a new and valuable source of fisheries wealth.

Ottawa was no doubt inspired by good intentions in extending the lobster fishing season. The extra days at the end may prove of great assistance to the fisherman, but, unfortunately, in some instances notice of the early opening came too late to permit fisherman to take advantage of it.

The Canadian Fisheries Association appeared before the Board of Railway Commissioners for Canada on April 20 and asked for a reduction in express rates. Witnesses succeeded in establishing that fish values have materially declined since the last increase was given, and also that the movement of fish has diminished considerably. Judgment has not yet been rendered.

Maritime members of parliament have decided among themselves to continue giving to American vessels the right to use our Atlantic ports despite the fact that our fishermen have been debarred from theirs. Fishing merchants in Halifax have also mooted the question and are less dogmatic in their decision. They are satisfied to continue the privilege so long as the tariff barrier is down, but they are dubious of submitting to the *modus vivendi* license in the face of an impregnable tariff wall.

The government of Quebec has begun to organize her fisheries which were recently taken over from the federal authorities. Mr. A. Gaudet of Magdalen Island, who for twenty-five years has served as inspector for the department at Ottawa, has been appointed general inspector for the province. Congratulations. Fishermen are being encouraged to go after lobsters and mackerel, both valuable species and plentiful in Quebec, especially along the Gaspe coast, but heretofore not sought extensively. Good stuff! Keep it up.

Genoa has its interest, too, for the fishing industry. Russia was once a big consumer of fish and will be again as soon as her frontiers and her institutions are open to commerce. Canada has not been a competitor in the Russian market but European countries, particularly bordering states and Great Britain, did considerable trade and, having been forced out, now come into keener competition with us in other fields. So a general repair of Europe will help us all one way or another. Norway is the first to get her fish to the Soviets. She has sold a good quantity of cod but it was business that Canada and Newfoundland refused to touch last year because of the uncertainty of payment.

The minister of marine and fisheries has half promised Mr. Duff of Lunenberg that he would provide a grant to boost the international fishermen's race this fall. Subsequent to the discussion of the matter in the House of Commons a press despatch from Halifax attempted to throw cold water on the scheme by intimating it would encourage the building of sailing vessels which should be now giving way to power craft. The idea of the correspondent or whoever inspired it seems a bit far-fetched. At least it was very ill-timed. A good many interested seem to have overlooked the fact that invaluable publicity has accrued to the Province of Nova Scotia from the international race, and publicity, also, which is worth a good deal to the fish business.

The condition of the salmon fishery of the Pacific coast, along with various other British Columbia fishery problems, is to be considered by the parliamentary standing committee on marine and fisheries at Ottawa, and, according to Hon. Mr. Lapointe, if the situation warrants, witnesses will be brought from the coast. It is hoped that something material and constructive will develop from this the umpteenth hearing on these questions. If "hearings" always meant something British Columbia's problems would have been settled ages ago.

Notes on the Fishing Results for March, 1922.

The total catch of sea fish on the Atlantic and Pacific Coasts for the month was 116,866 cwts. vaued at $515,869. In the same month last year 100,833 cwts.

The catch of cod, haddock, hake and pollack was 37,667 cwts., and in March, 1921, was 27,830 cwts.

The catch of lobsters on the Atlantic coast was small compared with the catch in March, 1921 there being 7,064 cwts. and 19,898 cwts. landed during the respective months. Since the opening of the season, there have been 13,239 cwts. taken compared with 27,346 cwts. during the same period in the preceding year. Of the former quantity there was packed 1,154 cases and 10,929 cwts. were used fresh. In the same period in the preceding year there were 4,220 cases packed and 18,901 cwts used fresh.

On the Pacific Coast there was a big drop in the catch of halibut, only 10,208, cwts, being taken compared with 20,268 cwts. in March 1921. The catch of herring on the other hand shows a considerable increase, 46,898 cwts. being taken against 18,304 in the preceding March.

One fisherman was reported drowned on the Pacific Coast.

Would Kill Frozen Fish Business

Bill proposed in senate would absolutely destroy utility of cold storage—Everyone would suffer

Not only the fish trade but every branch of commerce and industry affected by the cold storage was aroused during the past month by the re-introduction into the Senate at Ottawa of a bill to amend the Cold Storage Warehouse Act in such a way as to utterly destroy the utility of this indispensable institution. The bill was introduced by Senator Bradbury and was given a first reading on March 17 and a second reading on May 2, following which it was referred to a special committee for further consideration. The honorable members of the Senate comprising the committee include Senators Belcourt, Casgrain, Daniel, Foster (Alma), Laird, Michener, McCoig, McHugh, McLean, McMeans, Pope, Tanner, Taylor, Turriff and Bradbury.

The proposed amendment called forth a storm of protest from all sections of the country and the objections advanced are so vital, so far-reaching and so obvious that it does not seem possible that any sane body of men would convert it into law. When the bill was debated upon the occasion of its second reading in the Senate many of the senators expressed themselves in favor of the restrictions the bill would impose and it was patent from their remarks that they were considering the purely theoretical side of the question. For example, the limitation of the period for holding fresh fish in cold storage for local consumption to three months, did not strike them as being inpracticable, but in reality such a measure would mean that the fishing business could make practically no use of the cold storage. It did not occur to them that most of our species are seasonal, that the supply when the fish is in season is too great for immediate consumption and must be carried in cold storage sometimes as long as nine and ten months to make it available to the consumer. The Gaspe salmon is in season about a month or a little more. This would mean that the delicious article of diet would be available for the Canadian epicure only during that month and three months thereafter. This is but one of a multitude of objections others of which shall be later mentioned.

The Provisions of the Bill

1-No article of food which has been taken out of cold storage shall be returned to cold storage except in such cases and subject to such requirements and conditions as are specified by regulation.

2-No article of food shall be placed in cold storage unless there is attached to the article or to the package containing it a label setting forth in black letters and figures at least half an inch high, the following particulars: description of the article; name and address of the person or firm on whose behalf it is being stored; the date of killing, taking, packing, manufacturing or otherwise procuring or producing; the net cost of article on date of storing, per pound, package, dozen or other unit of price.

3-When an article of food is placed in cold storage the manager or other person in charge of the warehouse shall cause it to be plainly printed on the aforesaid label in black letters and figures of the same size as the previous information, the following particulars: the number of the license under which warehouse operates; the name of the person or firm operating it; the date on which the article was delivered for cold storage; the date on which the article was placed in storage.

4--When an article of food is removed from cold storage the manager shall cause to be plainly printed or stamped on the label already mentioned, in red letters and figures at least one half an inch high, the following particulars: the date on which the article was removed from cold storage; the name and address of the firm or person to or for whom the article was delivered by the cold storage warehouse; the date of such delivery; the name and designation of person furnishing particulars.

5--Every person who offers, exposes for sale, or has in his possession for sale, any article of food which has been in cold storage must inform, upon inquiry, any person proposing to buy the article that it has been in cold storage, and, if so required, produce the label attached to the article or to the package which contained it when the article was removed from cold storage.

6--All parcels of food which have been in cold storage and are exposed for sale shall be marked with a card attached so as to be plainly in view of the public, upon which shall be printed in red black letters at least two inches high upon a white ground, the words "cold storage goods".

7--The act shall be amended by adding the following schedule, longer than whch the articles designated must not remain in cold storage, unless the minister of agriculture can be satisfied that such article which has already been in storage may be further stored without undue risk of its being unfit for human consumption.

The schedule includes the following:—

Fish (not for export) not to be held longer than three months. Fish (for export) not to be held longer than nine months.

Just how it would operate with Fish

Were the terms of this impossible bill ever make law it would mean that no producer or merchandizer of fish could hold fresh fish designed for consumption in Canada in cold storage for a longer period than three months. Furthermore, each parcel of fish (and as fresh fish are almost invariably stored in bulk that would maneach individual fish) must be labelled, and upon that label must be printed in half inch letters, the name of the person storing, the date the fish was killed, and the net cost of the article to date in the usual unit of price. The proprietor of the cold storage warehouse must see to it that other information must be added to the label as a check. Finally, when the fish is taken from storage the proprietor of the warehouse must designate in half inch red letters upon the label, the date it left storage and others particulars as to whom it was delivered.

Nor is that all. Every retailer or wholesaler who offers the fish for sale must inform his customer upon inquiry that the article has been in cold storage and, furthermore, if requested, must produce the documentary label which was attached to the article in storage. And

even that is not enough. All parcels of food offered or exposed for sale after leaving cold storage must be marked with a card in letters at least two inches high "Cold Storage Goods".

Now whaddy ya know about that?

The writer feels quite sure that our thousands of fishermen would offer no objection to mulling over their fish after pulling in nets, trawls, hand lines or long lines, or emptying their weirs, traps, etc. and inscribing on each individual herring, whitefish, salmon, halibut or whatever other species it may be, large or small, preferably on its snout, in neat Gothic letters the day and hour upon which it expired. It is possible that a "grave yard" crew may have to be employed for the purpose to let the fishermen fish, but the plan may offer unlimited sales possibilities. Enterprising merchants may accompany each salmon or halibut with a miniature tombstone bearing neat inscriptions. It will only be anticipating a few years anyway for the salmon and halibut of the Pacific, it appears, are due for a tombstone before many years.

Then when the man who receives the fish at the cold storage warehouse inspects each fish and finds that his death record has been properly affixed he will transfer the information to a label in letters and figures of suitable size that a blind man may feel them, and then he must have data from the storer to show the net cost of each little fish. If they have not been removed before that time, these poor little fishes will be forcibly ejected in three months time and if there is nobody around to eat them just at that time it is proposed to give them decent burial on the municipal dump. It is rumored that an amendment to the Bradbury bill was proposed to the effect that several carloads of monkey glands be kept on hand in cold storages and if the poor litthe fishes cannot be eaten and are too good to be thrown away, each one is to be equipped wth a perfectly good one-hundred horse power monkey gland and returned to his natural element and allowed to cavort and caper at will. There it to be some wireless or telepathtic influence through the agency of the monkey glands and they are to be called home to roost when we are ready to eat 'em. We have heard later that the senator was induced to withdraw his amendment because a certain section of the red chamber had secured a corner on the monkey gland market.

Finally some of the fishes, bedecked with a Gothic-engraved snout and carrying a large tag resembling a circus banner in black and white, find their way into our retail stores. Of course it would be impossible under these conditions for buyers to know whether or not they were cold storage fish so a street banner must be strung across in front of the store with index finger pointing in display window, reading—"Don't let us fool you in any way. These fish have been frozen to death".

Thus during the fishing season and for a term of grace three months after date, the philanthropic and long-suffering fish vendor is enabled to dispense goods to his patrons. After that he is obliged to close up shop and go hunting, shooting, swearing, or whatever his particular form of recreation may be, turn his street banner on the other side and advise the public "in red letters at least two inches in height on a white background" that the fishing business is on the hummer for a spell because Senator Bradbury had given all the piscatorial tribes a holiday.

Senator Bradbury's avowed lofty purpose to protect the consumer, the writer is sure, would be appreciated by said sonsumer when he came looking for fish and found none available. No doubt there are endless possibilities for the extension of trade and the speeding up of business which has been in the Doldrums for months and months. In fact it is possible that our fish merchandizers will get together and secure General Coxy to lead them on to Ottawa that they may weep on the neck of the Hon. Mr. Bradbury and acclaim him: "What has he not done to keep the fish in the sea, that we may not eat them! Hail, hail to the Great Big Fish".



A death certificate for each one, please!

A few facts; not theories

(Continued on page 100)

Is Winter Mackerel Fishery Possible?

Theory advanced that fish simply move off shore and may be had by going after them —some interesting observations.

By A. G. Huntsman

Biologist to the Biological Board of Canada

Perhaps no subject connected with the fisheries has aroused more interest and provoked more discussion than that of fish movements. The fisheries depend upon these movements, which, as they take place in the water, can rarely be followed in any detail. The available evidence is largely circumstantial, and in few cases is it so overwhelming as to ensure general conviction of the truth of one view only among the many that are usually advocated. Increase in knowledge has brought very different results in different cases. The common eel, that the ancients considered to be bred from the mud of the bottom of the fresh waters in which it swarmed, is now shown to have a romantic history including birth in the depths off the central Atlantic, a slow migration of several years to the coasts of North America and Europe, frequently an ascent of great distance into remote and relatively inaccessible bodies of fresh water for a sojourn and slow growth of years, and finally a return for spawning to the place of its birth. On the other hand the herring or army fish was at one time fancifully thought to swim south yearly from its home Arctic seas to spawn on the coasts of north-eastern Europe and then to hurry back north. It has been shown, however, that this is but a fairy tale, as these fish can be found throughout the year comparatively near the places where they spawn. Their movements are for the most part merely on and off shore depending upon the season, that is, the water conditions.

The mackerel has been the subject of a great deal of controversy, and we have not yet sufficient information concerning it to put an end to disputes regarding its migrations. Not a few theories have been advanced to explain the regularities and irregularities in its appearances. In 1851 Moses Perley of St. John, N. B. wrote in his excellent report to the New Brunswick Government, "It is now considered settled, that the mackerel is not migratory fish, but draws off into deep water, at the approach of winter, and returns to the shallow water near the shores, at the beginning of summer, for the purpose of depositing its spawn."

Where the Point Meant Much

However, at the meeting of the Halifax Fisheries Commission in 1877, the matter of the mackerel's movements played a prominent part in the dispute between the United States and Canada in connection with the contention of the former country that its fishermen had a right to fish in the Gulf of St Lawrence. The Americans claimed that the mackerel moved to the south as far as Cape Hatteras during the winter and in the spring and summer migrated north and east to the coasts of the New England States and the Maritime provinces. If this were correct, the mackerel of the Gulf of St. Lawrence would not be distinctly Canadian, but merely part of a large multitude that lived for a considerable part of the year off the coasts of the United States. The Canadians maintained that the mackerel is a local fish, wintering in deep water near or partially buried in the bottom in the neighbourhood of the coast where it is found during the summer. The data then available were insufficient to prove either theory.

The American view has gained very considerable currency among our fishermen, and with many has become so ingrained in their thinking and woven together with their experience of the mackerel, that they consider it proved, and consider any doubt cast upon the theory as a heresy. This view was taken as the basis for the mackerel scouting done by the Fisheries Branch of the Department of Marine and Fisheries last year, and it has figured as something unnecessary of proof in a number of articles published last year in the **Canadian Fisherman**. Those who uphold the theory fail frequently to realize that the evidence, which to them is conclusive, is in reality circumstantial only and capable of other interpretations. Mr. M.H. Nickerson has been the chief, and a very eloquent, advocate of this theory.

What has been the trend of the new evidence obtained in comparatively recent years. The principal new facts come from European seas. There a winter fishery for the mackerel has come into being in this century, and the steam trawlers which take part in it have added considerably to our knowledge of the whereabouts of this fish. At one time the European mackerel were thought to come yearly from the Polar seas, as was believed of the herring. Later the view was held that they wintered in the central and eastern Atlantic. It was known, however, that mackerel could be obtained somewhere in the English channel at all seasons of the year. The catches of the trawlers have now shown that in the North Sea the mackerel are near the bottom in deep water to the north during the winter, but move toward shore to rise to the surface at spawning time. After spawning they disperse and swim at all depths, to make their way northward and to the bottom again at the approach of winter. From the coasts adjacent to the Atlantic, they likewise seem to retire to deep water, in this case to the west, probably to the continental slope. In European waters, therefore, the extreme migratory view has not been supported by the facts.

On our coast we have not as yet such full information concerning the mackerel's winter habits, although occasional specimens have been found along the coast or on off-shore banks at that time of the year. If they keep far below the surface in deep water and do not feed during that period, there is little likelihood of their being taken unless many steam trawlers are operating

It has been claimed that the mackerel appear in the spring along our coast first at the southern end of Nova Scotia, and that as the season advances they are found farther and farther north, eventually in the Gulf of St. Lawrence, and that at that time they are absent from the more southern parts of the coast; also that in the fall they appear again but in the reverse

order. We have available a considerable body of unprejudiced testimony of people on the spot to test this claim. For some fifteen years at the close of the last century and at the beginning of the present one the Canadian Government conducted a Fisheries Intelligence Bureau, with reporters at a large number of points along our Atlantic coast. A considerable part of the records furnished were published with the Report of the Fisheries Branch and these are available to anyone for an investigation of this question. The mackerel was a fish of particular interest, and the date of its appearance and the times of its visits to each part of the coast were generally noted.

Theory not Borne Out

In vain have I examined these records to find a demonstration of such a regularity in the appearances of the mackerel. At first it might seem as if there were such a regularity. For example, in 1894, the following dates for the first appearance of the mackerel might be noted: Yarmouth, Map 16; Lunenburg, May 21; Musquodoboit, May 25; Canso, May 28; Gabarus, May 30. Further search showed, however, that they were reported from L'Ardoise, C. B. May 5, and Gaspe, May 12, and that while they were at the Magdalen Islands on May 26, they were not seen at Port Hood until July 4, and at Cheticamp until July 17, together with many other irregularities. In some years it would be almost possible to get a good series in the opposite direction—first at Cape Breton and then successively later to Pubnico near Cape Sable.

Nor is there any evidence as to the mackerel not occuring in the southern part of the coast during the summer while they are being taken in the Gulf of St. Lawrence. For example in 1900 they were caught at



Mysterious Mr. Mackerel

Yarmouth from May 14 to August 8; at Lunenburg from May 18 to November 15, with good or fair catches in every month; at Cheticamp from June 2 to October 15; at the Magdalen Islands, from May 30 to some time in June and from July 24 to the end of September; and at Alberton, P. E. I., from May 19 to May 24, and from July 3 to August 6. According to the American theory, there should be only spring and fall fishing at the south, and on going toward the north this should be converted into purely summer fishing, at least it should be continuous. However, the records show that there was spring and summer fishing at Yarmouth, continuous fishing from spring to fall at Lunenburg and at Cheticamp, and spring and fall fishing (as they consider it) at the Magdalen Islands.

If then these extensive records fail to substantiate the claims put forward by the advocates of the theory upheld by the Americans in 1877, do they show any regularity worth considering? As to the first appearance of the fish, while there is no regularity that would indicate a definite coastwise progress, *as a general rule* the mackerel appear first at the southernmost end of Nova Scotia as at Pubnico and Yarmouth, and shortly afterwards almost simultaneously at the mouth of the Bay of Fundy and along the whole outer coast of the mainland of Nova Scotia and of Cape Breton Island. Usually a few days later they appear either at the Magdalen Islands or at the northwest end of Prince Edward Island. At variable times, but usually much later they appear at other points along the north coast of Prince Edward Island and at points on the Gulf coasts of New Brunswick and Nova Scotia.

What regularity is there in the duration of the fishing periods? As with the crops on land, so with the mackerel, the fishery season is on the whole shorter at the north. As the fish usually appear at intervals only, definite runs are often mentioned. The most usual separation of the season at the north as well as at the south is into a spring run and a fall run. Of these two, the spring run is the more constant and dependable on most of the coast. Sometimes a summer run may be spoken of, or the runs are named after the months, which shows how irregular they are.

Deductions from Evidence

What do these general results of the analysis of the records of the Fisheries Intelligence Bureau indicate? In the first place, the first appearance of the fish sometimes at the north or at intermediate points, and also the almost simultaneous appearance of the fish along almost the whole extent of the coast, fail to support belief in a migration from far southern waters. These facts agree better with what has been demonstrated for European fish, namely, a movement into and from neighbouring deep waters. They seem to show that some at least of the mackerel of the Gulf remain in the deep water of the Laurentian channel, perhaps between Anticosti, Gaspé, and the Magdalen Islands. It might be expected that they would also occur in the Laurentian channel where it runs out through Cabot Strait and finally between Banquerean and Green Bank; also that they would occur on the side of the continent outside the Banks, and in the deep part of the Gulf of Maine. These are the situations that are most similar in character of water to the places where they have been discovered to live during the winter off the coasts of Europe. This view does not preclude there being a definite or even quite considerable movement or spreading of the fish toward the south when they retire to deep water. It may be noted that this view does not differ greatly from that advanced by Mr. Robert Keating in the April issue of the *Canadian Fisherman*. Along our coasts as well as in European waters, such definite and direct evidence of the mackerel's movements as would be afforded by the recapture of tagged fish is much to be desired.

The somewhat regular differences in the times of the appearance of the fish, being on the whole later at the north, indicate that the late coming of spring at the north affects the fish. The spawning is likewise delayed. The greater regularity in the spring run fits in with European experience that the mackerel are more regularly in schools and at the surface near the coast during the spawning period of the spring than during the summer and autumn.

The Spawning Area Known

The spawning area of the mackerel, as has long been known, is very extensive and coincides with the distribution of the adults during the spawning season, namely, off the coasts of New England and the Maritime provinces. In the southern part of the Gulf of St. Lawrence spawning is very general, and also successful, seeing that the minute fry can be obtained in large quantities in the latter part of the summer nearly everywhere. In the Bay of Fundy mackerel are irregular in their occurrence, and we have failed to obtain any fry. We believe that such eggs as are spawned there from time to time (and we know

(Continued on page 101)

Cod Reddening Traced to Sea Salt

Both Canadian and U. S. authorities recommend use of mined salt instead, or sterilization process.

The red discoloration in salt fish which has been the cause of considerable financial loss each year among curers of cod in Eastern Canada, has for some years been under scientific investigation. This evil is not one peculiar to Canada, but obtains wherever the business of salting fish is engaged in. Just recently a very interesting report has been made upon the subject by Dr. F. C. Harrison of Macdonald College, Quebec, and almost simultaneously comes another report from Dr. W. W. Browne, a United States authority. It is worthy of observation that both these eminent gentlemen reach the same general conclusion that the vegetable growth to which the discoloration is attributed prevails only in sea salt and they recommend that its usage for fish curing purposes he discontinued unless sterilized, and mined salt be employed instead.

The full text of Dr. Harrison's report is not yet at hand. It was submitted only recently to the Honorary Council for Scientific and Industrial Research, Ottawa, under whose auspices Dr. Harrison worked, and it is now in the hands of the printer. According to news reports the following facts are culled from the text:

The pink or red discoloration of green salted, cured or dried codfish on the Atlantic coast was due to the salt used in curing. This discoloration affected the market value of the product and sometimes affected as high as forty per cent. of the output. The value of these products exceeded $5,000,000 in 1921.

The result of Dr. Harrisson's experiment showed that the sea salt usually employed contained organisms causing discoloration, and that if no other was available, the salts should be sterilized by heating in a kiln at the temperature of boiling water for thirty minutes, otherwise only mined salts should be used. Establishments in which sea salt has been used should be disinfected by steam and all parts and ustensile washed with fresh water.

The recent report of Dr. Browne indicates that the condition is caused by the growth of two micro-organisms, whose probable origin is the sea salt with which the fish are cured. The pale pink colouration is produced by the growth of a "spirochaete" and the deep red by a "bacillus" form. The former term is applied to micro-organisms of a corkscrew shape; the latter to those of a rod shape—both forms are the cause of many diseases in man and animals. The optimum (or best) concentration of salt for the growth of these micro-organisms seems to be saturation. They grow well on heavily-salted fish, in brine, on salt piles, and fish agar saturated with salt. No growth appears on media containing less than 15 per cent. salt, by weight. The most favourable temperature for the growth of both is between 50 deg. and 60 deg. C. (122 degrees to 172 degrees F.) this a very great degree of heat, indicating the salt lagoons of the tropics as the probable source of the infection. Sunlight does not kill these organisms, ordinary bacteria are killed by ten minutes' exposure to bright sunlight. This difference also points to a tropical origin, where the red pigmentation is required as a protection against the bright sunlight.

All the results indicate that the causative agents of this troublesome and costly colouration of the salted fish have been discovered, and that their original sources is the solar evaporated sea salt with which the fish are cured. Mined or domestic salt seems to be free of their presence. Any method devised for eliminating reddening must be based either upon the proper disinfection of the sea salt before it is used, or the substitution of mined or domestic salt, which is free of infection. But in either case a thorough disinfection of the salt-fish plants and equipment is essential, since at the present time all are highly infected. (Dr. Browne is speaking of American plants.) It would be useless to dump sterilised salt, or even mined salt, into a highly infected plant, or to bring unsterilised salt into a thoroughly disinfected plant. The U. S. Bureau are conducting experiments to determine the best and most practical means of eradicating this most troublesome factor from the fish industry. It may be added that the following recommendations were made by Inspector A. W. Bitting, of the American Bureau of Chemistry, in 1910: Floors, dressing-tables, washing-tanks and all apparatus and implements in use should be frequently washed by a stream of water under high pressure; the butts should be thoroughly cleaned inside and out and steamed for twenty minutes, or sprayed with sulphurous acid, as also should the racks and walls, posts and floors be sprayed in the same way twice a week in summer. All refuse and rubbish should be promptly removed from the room.

CANADIANS ARE GETTING AFTER SPANISH TRADE.

It is learned that several eastern exporting houses have become interested in the possibilities of Spain as a market for our cured cod. A very valuable report on the cures required by different parts of the country has been recently received by the Department of Trade and Commerce at Ottawa from an overseas trade commissioner and those interested should apply for a copy of same either through the Fish Marketing Division of the Marine and Fisheries Department or directly to the Commercial Intelligence Service, Department of Trade and Commerce, Ottawa.

Spain should offer a particularly favorable market just at this time. Norwegian cod is denied the market by reason of a high tariff and French exporters are much worried at the present time over a proposal to place the same tariff against France, namely 72 pesetas per 100 kilogramms. This, it is feared, would prohibit France from engaging in the business on account of the adverse rate of exchange of the French franc.

Newfoundland has developed a big Spanish trade in recent years but Canada lost what little business she did have. There is no reason why Canadians should not make a bid for the trade. Norwegians are making a mighty effort for our trade in Cuba and North Brazil. The distance of the market from them and its proximity to us appears to be no discouraging factor. Why so, then, in our case in canvassing Spanish trade?

Wants Lobster Industry for Province

Well known authority points out how fishery could be handleed more economically and to better advantage.

By M.H. NICKERSON

The following is offered for public consideration as a brief in behalf of the Canadian lobster industry:

1. — Neither the B.N.A. Act, nor the subsequent decisions of the Privy Council clearly define the provincial right to supervise and regulate the local inshore fisheries.

2 — The federal authorities have exercised full control, unchallenged except by Ontario and Quebec, and slightly modified with respect to British Columbia. As for Quebec, that province has lately acquired practical autonomy in all matters relating to its local fisheries. This concession is admittedly based on considerations of justice, and in accordance with all economic interests.

3. — This point being granted, there is no valid reason why Nova Scotia, or any part of the Maritimes, should not be allowed to enact laws and lay down rules for the governance of its own fishery affairs, and to administer the same subject to addition or amendment, as occasion may require.

4. — For the sake of clearness, the question here raised has reference wholly and solely to lobster fishing and the disposal of its products. There is no federal interference with other branches of the fisheries, except as regards a few sporadic kinds in the near inshore waters. For over thirty years past, the lobster pursuit at large has been regulated not by laws passed in the federal parliament, but by order of a cabinet council, sometimes advised by a member of the Commons with an eye to his particular section, and more often by a delegation whose viewpoint does not take in the whole extensive territory. It sometimes happens, also, that by this mode of engineering, the interests of one province are advanced to the detriment of some other province, or all the rest.

5. — It is evident that valuable marine resource can never be fairly and equitably developed under such a clumsy and clandestine system of administration. Though operations take place mostly in quite deep water, and beyond the shore belt, the calling no more comes within the purview of the central powers than the digging of clams, the gathering of cockles or the scoop-netting of alewives stemming up the little streams flowing from the inland lakes. Yet every lobsterman pays yearly a quarter dollar into the Dominion treasury for the privilege of tending his traps in fair weather or foul.

6. — In assuming the lobstermen's burden, Nova Scotia would be under the expense of overseeing it; but the new load of responsibility would be extremely light. Present charges could be reduced to less than one-fourth. The law takes no cognizance of size. The legal seasons (necessarily not co-terminus) could each be more efficiently enforced by visits to the various canneries, instead of patrolling the coast in search of traps; and having respect to live experts, the carrier-lines by land or sea could be easily looked after at the point of exit. Three or four smart officials, in the honest performance of their duty, would soon show more satisfactory results than have thus far been achieved. And the wherewithal to keep them going could be almost, if not quite, made up from the sum-total of the said license fees. The blue-book says there are nearly twenty thousand lobster fishers in Nova Scotia. The above levy must amount to $5,000 a year. That sum would no doubt cover all costs.

7. — Provincial supervision of all lobstering activities would effect a considerable saving to the national exchequer every year. Protective cruisers are not needed for this branch. Neither are the several patrol boats which creep out every spring like flies in the first sunshiny days. Of course, it is not good policy, it is not neighborly, to curtail any essential employment and thus displace labor of any kind. But the men so engaged could be transferred to some other sphere of usefulness in the same connection on shore, without a cut in the salaries but with the elimination of coal and oil bills as well as the large expenditure for the upkeep and repair of boats. The force of this contention is self-evident, and needs no special pleading to convince all thoughtful minds. Parties who keep a tolerably fair run of what it takes from the public chest to carry the several lobster seasons through will readily admit that local oversight could do it much better and cheaper.

Supplementary:—The duty of a fishery department, or such division of governmental functions, consists in so regulating sizes and seasons that there shall be no undue waste of available resources, no wanton destruction of any species, exactly on the same principle as the various game laws are framed. If this reasoning is sound (and just criticism is invited) then the task of the fishery officer ends when the lobsters are landed in the legal season, and strictly speaking he should not be commissioned to follow up the disposal of lawful catches, whether they go to the canneries or are shipped abroad, save only for detective purposes, as stated above, and that would be neither laborious nor expensive. There is already, I believe, a local statute proving for the inspection of factories in general, and certainly lobster shops should be included. As for the matter of packing and exporting the tinned goods, that most certainly comes within the pale of the department of commerce, just as the lumber export business in all countries is widely sundered from the laws of forestry. The whole complex machinery should be revised and simplified for the general benefit.

If lobster laws, like the ordinary game laws, could be handled in the local Assembly, what an immense improvement might be expected! What a keen interest would be awakened among the members in one of the chief natural resources, and that, too, free from all strikes, lockouts, disputes and conflicts between so-called labor and capital! It is also of common appeal, and not sectional, thus easily leading up to unity of opinion, without envy or prejudice. All the counties are more or less concerned, and every member as a matter of course, would be well informed as to every phase of the question from being in close touch with the important interests of the same. And representation, in case of needed change, or amendment to the regulations, would have prompt attention, open debate and a decision by vote, like any other constitutional measure....Conditions at present are chaotic. The people's earnings are likely to suffer unless wiser counsel prevails. Let the newspapers and magazines thoroughly ventilate the question, and the boards of trade deal with it on its acknowledged merits.

Many Fishery Matters Aired at Ottawa

Modus Vivendi license to U. S. vessels will continue—Grant to boost international race urged by Mr. Duff.

April 21.—That he would prefer to employ white fishermen, except for the fact that the average white man on the west coast of Vancouver Island would not fish, and, therefore, it was necessary to employ Japanese, was the declaration this morning before the House Committee on Fisheries, of W. R. Lord, a Vancouver Island salmon canner. Mr.Lord wanted an embargo against the export of raw fish from Canada to the United States. American buyers, he said, could outbid the Canadian canners and pay higher prices here than they did at home.

W. G. McQuarrie, Conservative member for New Westminster, whose resolution from the House was before the committee, claimed that in some section, the salmon fisheries of British Columbia were so greatly controlled by Orientals that white fishermen were not being allowed to enter the business. This was an improper state of affairs in Canada.

Mr. McQuarrie believed the committee could profitably consider the whole fisheries industry of the Dominion.

W. R. Lord declared the salmon fisheries in British Columbia were in a serious state. Traps in the Puget Sound had reduced the Fraser River salmon catch severely.

These traps were operated by Americans. Some Canadian traps were operated on the south coast of Vancouver Isand. Mr. Lord suggested the best soution woud be to close down the Fraser River Fisheries for eight years. This would necessitate conclusion of a treaty to have American traps stopped also.

He had come to Ottawa to ask for an embargo or export duty which would give Canadian packers an equal chance with Americans. The export of fish in the raw state should be prohibited. Answering Mr. McQuarrie, witness admitted this would prohibit fishermen from selling to anyone but Canadian packers. This would compel American buyers to process their fish in Canada.

Mr. McQuarrie: "Then you could fix prices to the fishermen?"

Witness admitted that this was the case.

Mr. McQuarrie said he had fought this for years. Mr. Lord added that Japanese were being employed "because the white men would not work. They wanted to sit back and curse the Government because it did not start public works."

Japanese fishermen received just as high prices as white men. Witness would like to get Scotch settlers there to farm and fish, but the farm lots were tied up by people who would neither farm nor fish.

If there were no Japanese fishermen there would be no canning business. Witness would buy from a white man in preference to yellow, but white men would not fish. He would keep Japanese out altogether if he could get whites. He had lost $30,000 last year because there was no market for low-grade fish.

Answering Mr. McQuarrie, witness said an embargo would reduce the price to the canners in Canada.

Chairman Duff called Mr. Lord's attention to the proposed American tariff, which puts a duty of two cents a pound on fish.

"Would you need an embargo if that goes into effect?" asked Mr. Duff.

"No," replied Mr. Lord.

"When will that duty go into effect?" asked a committee man.

"I hope never," replied Mr. Duff, who is interested in east coast fisheries.

To Continue Modus Vivendi

April 25.—The fact that the United States cancelled last year the reciprocal privilege extended in its waters to Canadian fishermen did not cause similar action by Canada at the time. At a conference here on Saturday between Nova Scotia members and the fisheries Department it was agreed to continue to extend fishing rights to the Americans. Efforts will be made to revert to the old reciprocal arrangements.

Lobster Season Extended

April 27.—Unemployment which is causing distress along the Cape Breton coast, has prompted the Government to amend the lobster fishery regulations so as to open the fishing season on the first of May this year instead of May 16, as usual. The amendment applies to that portion of the Cape Breton coast from Redpoint, Richmond County, to Cape St. Lawrence, Inverness County, including St. Paul's Island. The season this year will extend from May 1 to June 30, both days inclusive, instead of May 16 to July 15, as in previous years. The amendment expressly sets forth that the change applies to this year only.

The Salmon Embargo

April 28.—The suggested embargo on the export of fresh caught fish was strongly advocated by Bell Irving, a British Columbia canner, before the Marine and Fisheries Committee of the House of Commons this morning. He cited evidence that in 1916, sixteen million pounds of fresh fish were exported from British Columbia to American canners, and that the net advantage to Canada of having that fish put up in this country would have been half a million dollars. He admitted that American competeition gave Canadian fishermen a better price than the Canadian canners would pay, but claimed that the public advantage in having the work done in Canada was paramount. To attempt to operate the canneries without the Japanese, Mr. Irving said, would cause a "domestic upheaval." But no canners would object to a policy which would bring in white fishermen.

Asks Grant for Fishermen Race

May 3.—"It is advisable," moved William Duff, Liberal member of Lunenburg, N. S. in the House of Commons today, "that every possible assistance be given to the promotion and maintenance of international deep sea racing between Canadian deep sea fishing vessels and dep sea fishing vessels of other nations.

The House cheered when Mr. Duff spoke of the Canadian victory in the international races last year. This year, he said, the fishermen of Nova Scotia had built two more boats for the elimination contests, the Americans also had another two boats ready. It had become an international matter now, the interest having far exceeded the local or provincial sphere.

Hon. Ernest Lapointe, Minister of Marine and Fisheries, said it had appealed to his sporting and national spirit to know that Canadians were holding their own against Americans and other foreign competitors. If a small grant would help the fishing and shipbuilding industries, he was of the opinion that it was deserved; but he did not feel free to say, in the terms of the resolution, that the race should be given "every possible assistance." He promised to give the matter careful consideration, and for this purpose moved adjournment of the debate. This was accepted at once by Mr. Duff and carried without opposition.

In a passing reference to the debate on "flag flapping" in the House the other day, Mr. Duff said that when the fishing fleet set out for the Banks they put the flag topmast as a symbol. "We do not believe in flag flapping" he said. "We do not hoist it every day and let it get ragged. But it is a symbol to the wives and sweethearts on shore, and we use it only for for special occasions."

Mr. Duff asserted that to make a small grant to the expenses of the Canadian boats in this international contest would be a stimulus to shipbuilding and to the fishing industry. The Government granted $1,000 for Alpine climbing; they might well make a small grant of $5,000 for this purpose. He recalled the prediction of Joseph Howe that in fifty years there would be 500,000 fishermen in the Maritime Provinces. That hope had not been realized, and he appealed to the Government to take advantage of the present opportunity to help to realize it.

To Stop Fishing Outside Limits

May 4— Hon. Mr. Lapointe moved for leave to introduce a bill to amend the Fisheries Act of 1914, providing penalties for any who, without a license from the minister of marine and fisheries, leaves any port or place in Canada to fish for salmon or lobsters in the sea beyond the territorial waters of Canada, or who knowingly brings into Canada any salmon or lobsters taken or caught in the sea beyond territorial waters in contravention of the provision mentioned.

Mr Lapointe explained that the object of the bill is to afford proper protection to our lobster and salmon fisheries. Both these fisheries are conducted beyond, as well as within, territorial waters. Heretofore regulations which applied to both have never been challenged. "But we have been informed that they may be challenged in some part of the country, especially in British Columbia; and the department of justice is of opinion that the regulation should be implemented by legislation."

Fishing Vessels Exempt

May 5— A resolution was passed in the house this evening to provide for the exemption of Canadian fishing vessels from pilotage dues. Hon. Mr. Lapointe explained that it had been customary to exempt fishing vessels but there was no legal authority for doing so. A bill thereon was read the first time.

On Tuna's Trail

One of the events of great interest to fishermen and canners, as well as scientists, was the recent launching of Captain George Farnsworth's yacht, the "Gypsy Girl" in which Mr. Farnsworth expects to navigate the remote corners of the Southern Seas in search of the spawning grounds of Southern California fish and other varieties.

It is a well known fact that a specimen of the Tuna, (of the species that enters tin cans labeled "Chicken of the Sea") of the length of a man's hand has never



been found. It is now at least ten years since the Tuna has been canned, but there is still the reward offered by the United States Bureau of Fisheries for a specimen of Tuna of that size. When the fish appear off the Southern California coasts about the first of June, there are no small fish among them. They are found only in the locality extending from Monterey in the north, to San Diego in the south, and on down toward Sata Cruz in Mexico. As they are usually found later in the season toward the southern part of the coast, it is thought they go on southward in the fall. But where they spawn is still a mystery.

It is to find out the secrets of this and other species of fish that Mr. Farnsworth and his party have embarked on the first lap of a cruise that is expected to last seven years. Their first stopping place will be Magdalena Bay.

The "Gypsy Girl" has both power and sail, and is modeled after the older types of the Gloucester fishing craft. Captain Farnsworth will be accompanied by his wife, who is also a good sailor, and as Captain Farnsworth is an experienced navigator as well as an authority on fish, the expedition is watched with interest. The "Gypsy Girl" sailed from San Pedro January the twenty-eighth.

THINGS WE USED TO SEE.

A girl, a great lover of nature, went to the seashore for a holiday and approaching a typical fisherman, said:

"Ah, sir, how well you must know the face of nature, and know it in all its moods! Have you ever seen the sun sinking in such a glare of glory that it swallows up the horizon with fire? Have you not seen the mist gliding down the hilltop like a spectre? Have you never," she went on impassionately, "seen the moon struggling to shake off the grip of the ragged, rugged storm-clouds?"

"No, Miss," responded the fisherman; "I used to see them things, but not since prohibition."

News Notes from Far and Near

Striking decline noted in number of vessels and men engaged in Newfoundland fisheries

Newfoundland Fisheries Show Decline

Statistics published by the Trade Review of Newfoundland throw some interesting and indeed startling information on the condition of her fisheries on the banks and on the Labrador. Custom House returns show that whereas in 1913 there were 104 schooners, aggregating 7,7551 tons, carrying 1,803 men, with a total catch of 152,374 quintals, in 1921 there were only forty-one schooners with a total tonnage of 2,847 and 697 men, and the total catch was but 94,461 quintals. The decline was steady from year to year. The average catch per man, it will be noted, however, was increased in that period from 83 quintals to 135 quintals.

On the Labrador, too, the decrease in vessels employed and men engaged, has also been steady during the same period. In 1913 vessels in this fishery numbered 884 and 2,518 men were engaged, while last year there were 579 vessels and 1,798 men employed. The Trade Review points out, however, that these figures may not be complete as many of the Northern planters never take the trouble to enter or clear their vessels from one end of the year to the other. The great falling off in the number following the fishery may be accounted for, the paper observes, by the fact that many now reach the Labrador by regular passenger boats whereas formerly they all went in the fishing schooners.

Sealing Statistics

The 101,452 seals taken by the Newfoundland steam sealing fleet in 1921 brought a revenue of $171,242.76. In the past ten years there were only three years when the catch was smaller and only three years when the revenue was below that of 1921. The total catch for the ten-year period from 1912 to 1921 was 1,534,327 and the total revenuein that period was $4,041,488.29.

Father and Son Lost

Frederick Banks and his son of Yarmouth, it is believed, have lost their lives by drowning. They went out in their motor boat on April 27 with the mosquito fleet to fish about fifteen miles off shore. Due to thick weather the balance of the fleet returned, but not the Banks' boat. One resembling it was later picked up fifteen miles southwest of Cape Sable.

Prices Should Be Good

Very little is left of the 1921 Newfoundland fish catch and it is believed a record has been established for an early clean-up. The markets have pretty well absorbed supplies so that the prospects for good prices this summer are bright indeed.

Another New Trawl

In recent issues we have made extended reference to the Danish seine which threatens to revolutionize fishing methods in the Old Country, improved curved trawler boards and also a new herring trawl. Recently, says the Fish Trades Gazette of London, trials have been made in France with a new style of trawl. It appears to be a combination of a trap-net and a Mediterranean trawl slung between two boats. It has been tried between two steam trawlers and about double the quantity of fish was taken compared with what ordinary trawlers were getting on the same grounds. Owing to the diminished resistance in the water and the reduced burden of the vessels the consumption of coal was reduced to about two tons a day. The contrivance is to be tried in other grounds.

Cattle Census Shows Little Change

A recent table issued by the United States Bureau of Markets and Crop Estimates, shows that the world's supply of cattle has changed little as compared with pre-war days. Estimates place the country in all countries, excluding Bulgaria, Russia, Czecho-Slovakia, Palond, Serbia and some smaller countries, at 383,784,000 while the post-war totals, with the same exclusions, amount to 384,398,-000. The number in the United States has increased from 56,592,000 in 1914 to 66,191,000 in 1921. In Canada the total has jumped from 6,656,000 in 1913 to 10,206,000 in 1921. There had been no falling off in the cattle census in the western hemisphere, up to 1921, but undoubtedly there has been a considerable decline in the past year and will be in the next year in the process of economic readjustment. Under present conditions, it is said, cattle raisers find it unprofitable to feed and unprofitable to sell and a good many are liable to suffer until things reach a normal basis once more.

Dried Cod Bonused

In view of the effect on the exportation of Norwegian dried fish by the attitude taken by Spain and Portugal on Norway's prohibition question the government at Christiana has decided to continue the guarantee respecting split fish, which was originally adopted as a war measure. This covers losses on graded qualities under certain conditions and the object is to raise the quality of Norway's split fish and enable it to compete better in foreign markets. Compulsory inspection and branding of split fish began on May 1. Much is expected from this measure.

Fish Check Fever

The pacific coast of South America is free from yellow fever for the first time in history and a little fish locally known as 'life' has been the most efficient agent in the battle to rid Peru of the dreaded disease. It is a very active destroyer of the mosquito larvae and more than 700,000 of them have been distributed in twos and threes in water containers in private dwellings.

Sold for $12,000

The tern schooner Favorian built three years ago at a cost approximating $90,000, was sold recently at auction at Halifax and realized only $12,000. The purchaser was J. E. Campbell of Summerside, P.E.I. Bidding started at $7,000.

Drift Ice Hampers Fishermen

Drift ice which had been hugging the Cape Breton and Canso shore about the first of May seriously hampered fishing operations. The lobster season particularly got off to a bad start. Due to rough and windy weather April produced practically no results and drift ice made the outlook for May discouraging.

World's Biggest Trawler

The steam trawler Jules-Elby is reputed to be the largest in the world. It belongs to the firm of Poret and Co., of France and was especially built for the cod fishing at Iceland and the Newfoundland Banks. It measures 227 1-2 feet in length and is 1300 tons gross, having a crew of seventy. It can burn coal or oil indifferently though it is intended to use oil as a rule. The vessel cost 2,500,000 francs. It is equipped with a refrigerator plant intended to maintain an even temperature of 32 degrees F. in the fish-holds.

Experimental Shipments in Poor Shope

The London correspondent of one of the Montreal papers states that recent attempts to inaugurate trade with England in fresh Canadian haddock have not met with favorable results, to put it mildly. One shipload, he states, consigned by a vessel sailing direct from Halifax to London, was delayed and on its arrival was seized by the sanitary authorities of the port of London and destroyed as unfit for human consumption.

An earlier shipment to Liverpool was only slightly more successful, the correspondent adds. The importing firm of Charles Petrie and Son of Liverpool informed him that the fresh haddock which were carried in ordinary unrefrigerated cargo space, arrived in fair condition, but that the smoked haddock had been roughly split, while the fillets were too large for the English market. The net price realized from the shipment did not cover the freight charges.

Schooner Founders

The thirty-one ton schooner, Lucy A., Captain John Simms, of Yarmouth, foundered near Yarmouth May 4. She was one of a fresh fish fleet belonging to Mayor Walker and had just been overhauled for hand lining.

1921 *Poor Fishing Year*

The year 1921 was one of scanty receipts and low prices for the fishing industry of both the New England states and the Maritime Provinces, according to the annual review of the Boston Fish Bureau. The mackerel fishing, described as the barometer of the deep sea trade, was the poorest on record. Ground fishing was not so badly hit; the schooner Frances S. Grueby, most successful of those engaged in this trade, earned $90,000 during the year, the crew shares amounting to $1,975 each.

Heavy Fall in Values

As showing the deflation in prices of fish, the total catch for March on both the Atlantic and Pacific coasts. although 16,000 cwts. larger than in March last year, was valued at over $200,000 less.—*Halifax Chronicle.*

A New Fish Species

A species of fish hitherto unknown to science was recently caught by a Japanese fishermen thirteen miles off shore from Honolulu in a depth of 1,200 feet of water. The fish weighs 150 pounds and is flat and almost circular. Silver predominates in the coloring with fins and snout of scarlet and the dorsal fin, about eighteen inches long, is spotted with white. The head is mottled with dark grey and black and the eyes are round and about four inches in diameter. The ichthyologist of the University of Hawaii declares the species is not classified in any scientific work. Not many months ago several new species were discovered in the same area when molten lava poured into the sea.

Lunenburgers Do Well.

About twenty-five Lunenburg bankers have returned from this spring trip and report catches ranging from 600 to 1,000 quintals, considered good for this time of the year. The rest of the fleet are expected in port soon and will make ready for their second trip to the banks.

Good Prospects for Year

Lake Winnipeg is expected to produce upwards of 1,500,000 pounds of whitefish this season, in addition to a large catch of pickerel, jackfish and tulibee. The coarser fish are exceptionally plentiful this season. Lakes Manitoba and St. Martin are also being fished extensively.

CHANGE OF PERSONNEL IN JOHN LECKIE LTD.

There is probably no firm better known to all the fishing interests on the Great Lakes than that of John John Leckie, Limited, of Toronto, and while the lines handled by the company have established a reputation for the firm from coast to coast, it is to the personnel that must be attributed the great strides made in the expansion of the business. Since 1914 and up to a month ago, the reins of management of this firm of half a century were in the hands of Mr. Samuel Barbour, who received valuable training and experience in the netting mills of the Old Country and the United States, had made a great success of the business, so much so, that he has been called to a position of larger



J. A. MACAULAY

responsibility, and has undertaken the management of the eastern business of The Linen Thread Company with headquarters in Boston. Canada has lost a valuable man to the industry. The CANADIAN FISHERMAN congratulates Mr. Barbour on his new and important appointment.

The management of the company has been taken over by Mr. J. A. Macaulay who was office and sales manager under Mr. Barbour. There are few men better known to the industry than Mr. Macaulay. For the past fifteen years he has been associated with John Leckie, Limited, starting in as office boy and working up through various executive positions to his present responsible post at the helm. For many years Mr. Macaulay personally covered the fishing interests, and his intimate knowledge of the requirements, coupled with his exceptional executive ability augur well for the continued growth and expansion of this old established and reliable fishermen's outfitting firm.

ENGINE WRONGLY BLAMED.

A very nervous man bought a motor car and a friend asked him to give him a lift. They found themselves in a crowded street.

The friend said: "Jim, your engine is knocking badly."

"Don't be a fool," was the reply. "That's my knee."
—Exchange.

Our Salmon Planted in Antipodes

Success finally crowns effort to stock rivers and streams of New Zealand—Interesting story of how it was accomplished

The Domonion Commissioner of Fisheries, Professor Prince, has just received a very interesting communication from the Chief Inspector of New Zealand Fisheries giving important information on the success attending the planting of Canadian salmon in rivers at the Antipodes. There were originally no salmon or trout, as is well known, in the fifty or sixty beautiful rivers of New Zealand. Some were introduced many years ago, successive shipments of eggs being donated by the Canadian and United States Governments. The results seemed doubtful until last year when the largest run of Quinnat, or Pacific Spring salmon, sometimes called King salmon, ever experienced, came up several of the most important rivers. Chief Inspector Ayson, in his letter, informs Professor Prince that the fish not only ascended in greater numbers, but were of a larger size, than ever known before. Quite a considerable proportion were fish of forty pounds weight, several of the specimens were found on measurement to be over fifty inches in length. In 1920 the run of these fish became so alarmingly small that the New Zealand authorities were in great fear lest all their efforts at stocking their rivers with North American salmon had proved a dismal failure. Hardly a fish was seen, and there was widespread criticism of the Government's action in spending money on hatchery operations, and wasting time and energy in attempts to establish salmon. Some critics were very severe, dissatisfaction was general.

Professor Prince, in 1914, as is well known, at the request of the New Zealand Government, and with the permission of the Dominion Government, made a complete inspection of the marine and fresh-water fisheries of both islands, making lenghty tours and cruises, more extensive than any man had ever done, probably, before. His opinion was asked as to the apparent failure of salmon propagation, but from his large experience he was able to reassure the New Zealand Government, and he suggested that a hasty conclusion should not be reached. He suggested that, by waiting a year or two, a sounder judgment could be formed as to wether or not this scarcity of salmon, after several seasons of plenty, was not merely one of the usual fluctuations common to all fisheries. Professor Prince,s opinion has been amptly justified by the news just received that the run of salmon has been very large last season. Indeed it has been pronounced unparalleled. The famous Waitaki river was crowded with fish in January and February a year ago, and other rivers, like the Clutha, Rangitata, and Rakaia, also experienced fine runs of fish. When the Canadian Commissioner of Fisheries visited the salmon hatchery himself, in 1914, on the Hakateramea, he saw some dozens of fine Pacific salmon, large Spring or Quinnat salmon, fifteen to thirty pounds weight, lying dead upon the gravelly shallows for several miles. To Professor Prince it recalled a spectacle familiar to him on British Columbia rivers at the annual Quinnat spawning time. These New Zealand fish had matured and spawned naturally, and afterwards died, as is the rule among Pacific salmon of various species.

Atlantic Species Still a Mystery.

The Atlantic species of salmon in New Zealand is still an unsolved problem. The experiments made with eggs shipped from England and the United States, carried on systematically over a long period of years, have not proved successful. Nearly sixty years have elapsed since the Otago Provincial Council voted funds to cover the cost of importing Atlantic salmon eggs from England, and the attempts have been continued at intervals ever since. The conditions, judging by results, are clearly unfavourable at the Antipodes. It is not known whether it is food, or temperature, or some other conditions, which are unfavourable. Possibly it is a combination of conditions. Professor Prince, when in New Zealand, expressed the view that some of these conditions were perfectly favourable; but that probably after descending to the sea, the fish lost their bearings owing to the vast depths no great distance from the estnaries, depths which to the North East descend to 3000 or 4000 fathoms, and thus the salmon have never found their way back to their respective rivers. It is different with the Quinnat salmon, which has been proved in British Columbia never to wander far from the mouth of the river where it was hatched. Moreover, Inspector Ayson has frequently pointed out, the snow-fed rivers of New Zealand, especially those of the South Island, more nearly correspond to those of the Pacific coast of North America, where these fish are native, than with British rivers.

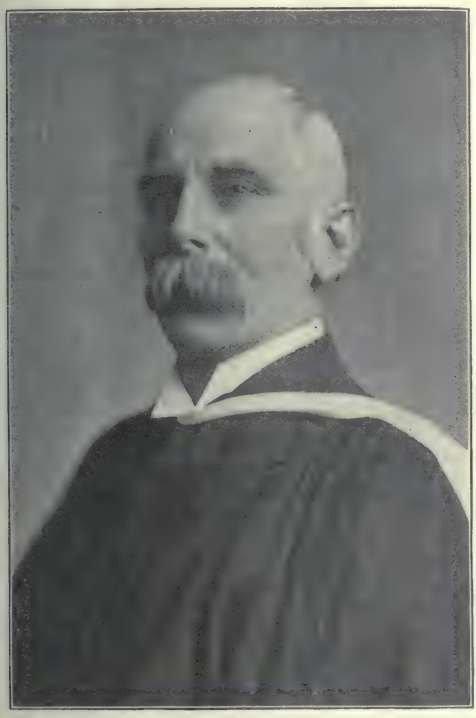
A system of persistent intensive stocking, long urged by Inspector Ayson, has been followed, and has proved its superiority by its results. Indeed, Professor Prince, in a report to the New Zealand Government said: "Instead of distributing fry piecemeal amongst a lorge number of rivers, Mr. Ayson has wisely planted the same waters year by year, and has thus succeeded in acclimatizing the fish. A fish new to the country, such as the Pacific salmon in the southern hemisphere, can only be established by contiuous and repeated stocking of the same waters until the introduced variety is secure against its many natural enemies."

The shipments of spring salmon eggs, first made in 1875, and continued for the five following years, had no result because they were scattered over too large a series of waters, and often in unsuitable localities, and at unfavourable seasons of the year. In 1900 a new policy was followed and since then, up to 1907, shipments of Canadian and U. S. eggs, from which were hatched in New Zealand, no less than 2,000,000 young salmon, have proved successful. Inspector Ayson claims that ninety per cent of the eggs yielded Quinnat fry, and these were successfully planted in the New Zealand rivers. Nowhere are the various operations in fish-culture more efficiently carried out than in that beautiful Dominion waters under the veteran and world-famed expert, Inspector L. F. Ayson. Most were planted as soon as the yolk-sack was absorbed, but a few were kept through the "fingerling" stages, for experimental purposes in ponds, until they were two years old.

In 1905, four years after the new policy had been adopted, anglers caught large Quinnat salmon in May and June in considerable numbers. May and June, it may be noted, correspond to the months of November and December in Canada. The New Zealand winter commences then, and the conditions are those of the late fall in the northern hemisphere.

Yielded Supplies of Eggs.

In 1907 some of the fish which had lived all their life and matured in New Zealand rivers and seas, yielded supplies of eggs. The hatchery officers secured over 30,000 eggs in one river, the Waitaki; and between 300 and 400 salmon spawned naturally on the gravel shallows. In 1908 there was a similar excellent run but the fish were distinctly larger and heavier. Some were found on measurement to be thirty-six inches to



Dr. E. E. Prince

fourty-six inches in length. Many were found dead after spawning, and as the weather was unfavourable for securing eggs for the hatchery, on the Hakateremea, not more than 50,000 were obtained. Large numbers of young salmon, two pounds weight, have been observed off some of the wharves, while fishermen reported having caught Quinnat salmon in the open sea, in 1909 and 1910, and since. More are not taken by nets offshore because, in the opinion of the fishermen,the large fish do not appear until the netting season is over,and the small fish must pass through the meshes.

In British Columbia the spring salmon are sought by sportsmen from all parts of the world, trolling with spoon-bait, and using also the fly. Very large fish are caught, in July and August, near the mouths of such rivers as Campbell River, a little north of Cape Mudge, and at points all the way round Vancouver Island to the City of Victoria. Spoon-bait fishing is carried on as late as December. Anglers have also been successful with this tackle in New Zealand, and in1910 a number of salmon, from six to ten or twelve pounds, were caught on the Otago shore, many being taken on a reef ten miles off the coast.

The phenomenal run af these fine salmon in New Zealand waters in 1921, now reported, is very encouraging, and has caused widespread delight. It shows that the Government's persevering efforts are bearing fruit. Enthusiasts are hoping that Chief Inspector Ayson's policy will continue to be encouraged, and extended to the Westland rivers. He has already transferred batches of eggs and fry from the eastern rivers where they are now, it is demonstrated, established, to the rivers on the west coast and emptying into the Tasman Sea. The conditions there are not less favourable. Great benefits are in store from the numerous shipments of salmon eggs, in past years, from the Canadian and the United States' hatcheries.

The valuable Sockeye or Blueback Salmon, on which our salmon canning industry has largely relied, is also proving a success in New Zealand rivers. Its value is purely commercial, and as New Zealanders are essentially sportman, there has been less interest in the more moderate success which has followed the planting of this smaller species. It is practically destitute of game qualities, and ranks so high commercially owing to its deep red flesh, from which it often receives the name Redfish or Red Salmon, or more commonly Sockeye.

THE AGE OF A FISH

How can one tell the age of a fish? Some one may say by its size or weight, but length or avoirdupois has nothing whatever to do with its age. Just as a tree tells its age by rings, so does the fish, which has its annual rings, not on its body, but on the scales which protect the body. If a fish scale is put under a magnifying glass it will be found to be covered with little rings, some almost together, and others farther apart. In times of scarcity of food and cold the fish grows slowly, and the rings are close together, but in times of plenty and when the weather is warmer the growth is more rapid, and the rings are wider apart. The rings represent one year in its life. Another way of tracing the age is by following the markings on what are called the carstones of the fish—the little hard things got in its inner ear. When these stones are put under the microscope they will be seen to have tiny light and dark rings. Each light ring represents one year's growth.

SEINES AND POUNDS RESTRICTED

A bill recently introduced into the legislature of Ontario to amend the Ontario Game and Fisheries Act, provides among other things that:

(1) No license or permit shall be granted authorizing the use of seine nets for commercial purposes in any of the rivers or streams of the Province other than rivers and streams that are international or interprovincial.

(2) No license or permit shall be granted authorizing the use of pound nets for commercial purposes in any of the waters of the Province other than in the waters that are international or interprovincial, and in Georgian Bay.

Our Advantage on Atlantic Banks

Though many fleets seek fish there, Canada has the bulge on competitors by proximity of ports

Con Cregan, Lever's roving character, was disappointed on crossing the Atlantic that he could not see the Grand Banks. It had been his notion that the fishing banks of the North Atlantic consisted of mounds of sand sloping into the sea. Perhaps he was even entertaining the idea of escaping to one of these "sandy islands". A good many outside the industry are possibly just as ill-posted on the subject as the irrepressible Con Cregan, but are not so willing to admit their ignorance. The fishing banks are not exposed above the surface. They are actually banks or mounds on the bed of the ocean but are perceptible only by the aid of sounding devices.

The Grand Bank of Newfoundland, the largest, located south-easterly from the Ancient Colony, covers an area about 330 miles north and south and 390 miles east and west and it is generally traversed by ships crossing the North Atlantic ocean between European points and ports in Nova Scotia or on the Bay of Fundy. The general depth of water on the Grand Bank varies from thirty to forty-five fathoms and the bottom is usually sand, gravel, or broken shells. The water surrounding drops off to anywhere from sixty to one hundred and forty fathoms. The only dangers to navigation on the Bank that have been verified are the Virgin rocks and banks and the Eastern rocks. The area covered by the Grand Bank really includes St. Pierre and Green Banks, which are separated only by narrow channels.

The approach to the Grand Bank is generally evidenced by an increasing number of sea-fowl around the vessel. The great shearwater, well known to the fishermen as hag or hagden, is seen all across the Atlantic, but on the banks it, as well as divers and other seafowl, becomes very numerous. The shearwater, by the way, derives its name from its skimming or shearing the water when flying.

One will observe by studying a chart of the North Atlantic how close our maritime ports are to the chief fishing banks as compared with American ports, yet it is an actual fact that our neighbors to the south take from these areas between two and three times the quantity of fish we do, and are serious competitors in our foreign trade. It seems logical from an economical and geographical standpoint that the business should be centralized in our maritime provinces, excluding possibly supplies destined for consumption in Portland, Boston, New York and American centres conveniently at hand. Undoubtedly fish may be landed sooner in our ports and if intended for the fresh fish trade will be on the way to interior markets much sooner than when travelling circuitously via Boston. Furthermore, the proximity of the port gives the fishermen more actual time on the banks. Naturally, when the distance to port is shortened the fishermen can produce more in a stated time and consequently should be able to meet all competition profitably. With the exception of Georges Bank the Americans are at a disadvantage.

Our Position Most Favorable

There seems to be a big opportunity for profitable investment. The fresh fish demand in Canada is developing rapidly and fish consumption generally is on the incline throughout the Dominion and the United States, as well. In addition, our foreign trade has grown tremendously in recent years. We should be able to produce cheaper than anyone else and the premium on the American dollar at the present time handicaps the United States' producer further in competing for foreign trade. Canadians have everything to help them but our neighbors are still doing a large proportion of the business.

The North Atlantic Banks are fished by fleets from the United States, Canada, Newfoundland, France and Portugal and Iceland. Large French fleets operate with the French island of St. Pierre as a base. A cold storage plant costing $1,200,000 having a freezing capacity of 200,000 in twenty-four hours and storage caphas recently been built there by the French Government and especially equipped steamers are provided to carry the supplies to Europe. The Parisian government is lending great assistance to the fishing industry looking, apparently, in that direction for material for her navy.

Using Fish Waste

Investigations in the utilisation of fish waste have been carried on in Nova Scotia under the direction of the Council for Scientific and Industrial Research at Ottawa. The experiments led to the establishment of a company in this Province which is now engaged in working up this hitherto discarded material into cattle food, fertiliser and fish oils, thus estabishing a new industry.

N. S. Makes The Start

Halifax, April 25.—The Nova Scotia Legislature has made a preliminary grant of $5,000 to provide technical instruction in the fishing industry. It is proposed to give instructions in the handing and repair of gas engines and in curing and packing fish. The grant will be increased if interest is shown in the classes.

In Other Words, She Did

"Once a charming young woman presented a small check at my window," said the speaker at a recent bankers' convention. "She was transparently honest, but had no acquaintances in the bank nor any letters or other papers with her. I asked her if she had a handkerchief or some article of jewelry marked with her name or initials. After a moment's deep thought her face brightened and she asked:

"Would an initialed garter buckle do?"

"Did she get the money" asked a voice of detached scientific inquiry from the back of the room.

"I must remind you," said the speaker, judicially, "that a bank's relations with its clients often are slightly confidential."—Anglo Bank Notes.

PACIFIC COAST SECTION

Pacific Problems Discussed in Parliament

Two questions of vital interest to British Columbia found their way to the pages of Hansard during the past month and both of them have been thorns in the side of the fishing interests of the Pacific province for years back. The first was with reference to Japanese immigration and the second was a demand for an investigation generally into the fishing industry of British Columbia with particular attention to the sockeye salmon.

Considerable acrimonious discussion was aroused by the Oriental issue. Members from the Pacific province pointed out what a strong grip Japanese and Chinese, the former particularly, were getting on the industrial life of the province. They had a devil-fish grip on the fisheries and their hold on fruit growing and other departments of agriculture was extending rapidly. Then again the difficulty, or rather the impossibility, of absorbing Orientals in our race was pointel out. The more numerous they became the greater became the colony of Orientals. A few generations hence would not see a disappearance of the Oriental characteristics by intermarriage because intermarriage is not feasible nor desirable. The increase in numbers means simply an increase in the grip the Orient has on British Columbia.

It was pointed out by the government that Oriental immigration was not developing at any alarming rate. A resolution by Mr. McQuarrie proposing exclusion of Orientals was amended by the government to "restricted immigration" and passed.

Fisheries Investigation Urged

In the House on April 10, W. G. McQuarrie, M.P., representing New Westminter, moved—

That, in the opinion of this House, it is advisable that the Standing Committee on Marine and Fisheries be and the said Standing Committee is hereby authorized and empowered to investigate and consider fisheries conditions in British Columbia, and more particularly, but not so as to restrict the generally of the fore-going, the depletion of the salmon fisheries of the Fraser River district, and to make suggestions for the restoration and conservation of the same; also to investigate and consider fish hatcheries, including the proper system to be adopted, their value as a means of propagation, the methods of operation and the results obtained therefrom; with power as to all the herein before mentioned matters to call for persons, papers and records, to examine witnesses under oath and to report from time to time.

Mr. McQuarrie spoke at length upon his resolution, pointing out the importance of this great industry in British Columbia, referring particularly to the falling off in salmon production. He was particularly anxious that something should be done to restore the valuable sockeye species in the Fraser. He quoted an eminent American authority that this was possible of accomplishment with the co-operation of federal, provincial and state authorities in a sincere effort.

Others who spoke on the question were T. W. Caldwell (Victoria and Carleton, N. B.), William Duff (Lunenburg), A. W. Neill (Comox-Alberni) and W. J. Ward (Daulphin). The latter took occasion to extol the virtues of fresh water fish, and illustrated the tremendous possibilities of the whitefish trade in the interior lakes and of developing a market for goldeyes, which, he said, were as delicious as the brook trout. He declared that fishermen of Lakes Winnipeg and Winnepegosis were being robbed by two big American concerns. The latter regulated the prices from the fishermen. They not only controlled at the source of production but were also the buyers when the fish were sold to the highest bidder in Chicago. He thought the minister should remedy this evil. "After producing 5,000 cardloads of fish in the last twenty years the fishermen of the Winnipegosis district find themselves today almost destitute."

Hon. Mr. Lapointe stated, in connection with Mr. McQuarrie's resolution; "I do not know whether the work of the committee as suggested will bring any improvement of conditions, but I have no objection to such work being undertaken. The only possible objection would be that rather large expenditures in witness fees might be involved. However, the committee can start to work, hear the experts of the department at Ottawa and be the judge whether other witnesses from British Columbia should be summoned. I have no objection to the resolution of my honorable friend."

Scots In Alaska

Because of the fact the great shoals of herring abundant in the North Sea prior to the war have since shown signs of depletion, some Scottish firms are making arrangements to establish packing plants in Alaska where they propose to put up herring in exactly the same style as in the Old Country. Already a gasoline tender has sailed from Taconia to Evans Island near LaTonche, Alaska, where a plant is to be built. When the season opens in May Scottish lassies experienced in the business will go there to do the packing in regulation style. There is also to be a fertilizer plant at Evans Island to absorb the offal.

Fisherman and Wife Drows

George Doughty, a prominent fish dealer of northern British Columbia, and his wife, met death by drowning early in May when their motor boat capsized. Doughty was located on North Island, Dixon Entrance, in preparation for the salmon buying season and went recently to Massett, Charlotte Island, to meet his wife who had been visiting in Prince Rupert, and was returning home. They have not since been heard from.

Opens Fish By-Products Plant

Prince Rupert, B. C.—George Bushby, of Victoria, has arrived to open up the fish by-products plant at Tucks Inlet for the manufacture of fish fertilizer and meal and the extraction of fish oil. It is expected to produce 1,000 tons of fertilizer and meal and 100,000 barrels of fish oil this season. The plant will operate all the year round and at the height of the season will keep four tugboats busy, as well as a large gang of men.

(Continued from page 87)

When the writer discussed this matter with fish producers there was no indication of humor in their comment. After perusing the bill they invariably characterized its terms as being impossible of fulfilment and if carried would put the cold storage, at least insofar as applied to fish, completely out of business.

The head of a Prince Rupert firm commented as follows:—

"It is customary, as well as necessary, to commence freezing fish sometimes as early as February and carry it in storage until the following winter which means that such fish are kept in storage about fifteen months before being shipped. If the demand is such that we are unable to market our total pack during the winter months owing to the fine weather prevailing on the fishing banks and the consequent heavy deliveries of fresh fish, we have no alternative but to hold such fish until the following season. In such cases frozen fish would remain in storage for twenty-four months.

"We cannot choose the time when we would freeze and store fish in cold storage. From time to time there is more fish delivered than the market requires and when this happens we must either dump the surplus or preserve it by freezing. To place a limit of three months on fish held in storage would mean that we could not freeze any fish before autumn, and usually at this time of the year halibut is in such demand that there is comparatively no surplus for freezing and spring salmon and cohoe salmon are no longer available. You will readily see that such a measure would put us out of business."

Said the head of a Winnipeg firm:

".....For another thing the method of marking is impossible. One can mark a package all right but the sale of fish in Canada as between wholesaler and retailer is not confined to transactions consisting of the entire original package.....

"As for the time schedule it is preposterous. Fish may be caught in the northern waters of the province in the early days of December and not reach, say Winnipeg, until January. The winter production generally ends in January and one would be permitted to carry these fish until March or April according to the time it was caught. The law does not permit of fishing for whitefish here until June 1 . What are we to do from May 1 to June 1? How are we to correctly estimate consumption and demand?

"The same applies to summer caught fish. The season is June and July, operations usually ceasing about the first week in August. Thus June fish would have to be consumed by September and July fish by October and there is no possible chance of obtaining new stock from October until the winter production comes in the following January."

A Splendid Illustration

H. A. Short, secretary of the Lake Erie Fishermen's Association, gave a very pointed illustration of the grave possibilties of the measure:

"The time schedule is particularly objectionable. If it became law it would practically kill the herring fishery on the lake. Probably seventy-five percent of the herring caught on this lake is used for smoking purposes and about ninety per cent. of this is for the American markets. The fish are caught during the months of July and August, frozen and stored, and the smokers do not commence to use up this stock until January, shipments being made then monthly from the freezers until the late summer. That is, the summer catch this year will not be used till January to September of next year. The three months' limit for the Canadian Smok-



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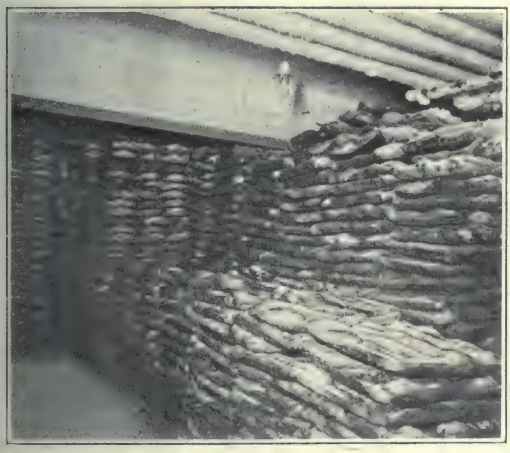
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ers would absolutely kill our trade with them, and would certainly have a very detrimental effect on the American trade. The cold storage limit in New York is ten months and the fact that this is too short a time has driven a great deal of the trade from American smokers to Canadian producers. If our limit is to be less than theirs it simply means that the American smokers will go back to the American producers. Our production will be lost and theirs increased, but, on account of the ten months' limit in New York the smokers must use fewer herring and must use chubs, tulibees, etc, which are inferior to the herring for smoking purposes.

"The production on the Canadian shore of this lake in 1920 was a little over 16,000,000 pounds. At the very least fifty per cent of this was herring. In my experience I do not remember selling for less than seven cents but taking it five cents, the annual loss to the Lake Erie fishermen would be in the neighborhood of half a million dollars in addition to that represented in cold storage charges, etc."



How frozen fish are stored

There was a host of other comment too voluminous to publish here, although if the situation warrants the writer will take the liberty of further presenting the views of the trade.

Association Takes Action

The executive of the Canadian Fisheries Association at two meetings in Montreal considered the question and, among other things, a resolution was adopted and a copy forwarded to each member of the Bradbury committee. The resolution follows:

Whereas, in the opinion of this meeting the cold storage warehouse is an institution indispensable to the successful prosecution of the fish business in Canada, and,

Whereas, it provides supplies of fish to the Canadian consumer when actual fishing is impossible, and

Whereas, furthermore, it tends to stabilize prices to the actual fisherman and make his livelihood more secure by taking care of his surplus in times when his production is plentiful and preserving it for consumption when fresh supplies are not available,

Therefore resolved, that this meeting do strenuously oppose the impossible restrictions of cold storage designed in the bill recently presented in the Senate by the Hon Mr. Bradbury, because they defeat the very purpose for which the cold storage plant was developed and fostered, namely, to protect the producer from waste of his commodity when output is in excess of demand and provide the consumer with his commodity when the immediate output is insufficient, and, furthermore, because said restrictions are absolutely impossible of fulfilment, at least insofar as the fish business is concerned, inasmuch as the various species of fish are seasonal and business would be halted except when the fishing season was at hand and three months thereafter, and further,

Resolved, that each member of the Senate committee on the the bill be advised of the condition of affairs as set forth in this resolution and impressed with the fact that the principle of cold storage is not inimical to the interests of the consumer but, on the contrary, is very much to his advantage, economically and in comfort.

Is Winter Mackerel Fishery Possible?

(Continued from page 89)

that they are) almost entirely perish, as in the case with so many floating eggs in that region. The occurrence and fate of the mackerel eggs on the outer coast of Nova Scotia requires investigation.

We are greatly in need of more information concerning the mackerel. More facts and a critical sifting of the evidence are desirable. Accurate records of the occurrence of the fish and of the conditions in the water at the time should be made. Tagging of fish should be attempted. A search for the winter haunts of the mackerel should be undertaken as soon as feasible. This could best be done with trawlers and in connection with a fishery for herring; or else occasional exploratory hauls in promising places could be made by trawlers out for bottom fish.

On the whole, therefore, the available evidence supports the view stated by Moses Perley in 1851 and upheld by Canada against the United States at Halifax in 1877, namely that the mackerel retire in winter to deep water off our shores. Consequently we can hold out to our fishermen the prospect of the development of a deep-water fishery for mackerel off our own coasts during the winter season, when these fish are at their best, and when conditions for keeping them fresh during transport to market are all that could be desired.

NAUTICAL VERNACULAR.

The sea supplies some of the most picturesque phrases in modern slang, with the most interesting derivations. There is no present-day reason why a British sailor should be called a "limey", and more than that a Nova Scotian should be called a "blue-nose". "Limey" does not come from "Blimey", the cockney corruption of the London slum oath "Blind me" as many suppose. Half a century ago, scurvy, a serious illness caused by a diet of salt meat, was common on many ships. The British government enacted a law requiring that an allowance of lime or lemon juice should be distributed among the crews of all British naval vessels as a preventive. From this, British naval shops came to be known as "lime-juicers" and when the same regulations were applied to British merchant vessels, the use of the term was spread. Lime juice is not apportioned among seamen to-day because it is no longer necessary; but sailors are slowest to change their mode of speech and the expression is still current. "Blue-nose" was originally applied to Nova Scotian fishermen by their American competitors for the ostensible reason that their noses were blue from the climate of their country. Spreading in its application, the word is also applied to the vessels and products of the Canadian province.



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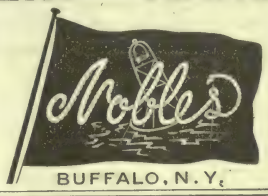
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Canada, Newfoundland and Great Britain - $2.00
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Published on the 24th of each month, Changes of advertisements should be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication these will be paid for at our regular rate.

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GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express - - - - Ste. Anne de Bellevue, Que.

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-:- EDITORIAL -:-

JAMES H. CONLON, Editor

INTERNATIONAL FISHERY ISSUES

The Fordney-McCumber tariff barrier is not receiving the support today that it did some months ago. People have had a chance to study the effects of the proposed policy and the popular sentiment in the United States at present is reflected in the increasing opposition to the measure in the senate at Washington. Important modifications have already been made and we should not be surprised to find duty-free fish as a provision of the final act.

There is a definite movement in the east to cancel all privileges to United States fishing vessels in our ports should the Fordney barrier as it stands be enforced. In the event of the latter, strong pressure will be brought to bear upon Ottawa to revoke all privileges not specifically provided by treaty. The abrogation of privileges to Canadian vessels in American ports is regarded as a breach of faith on the part of the American government. While the administration of the day takes the stand that the arrangement of 1918 making the ports of either country free to vessels of the other, was a war measure and designed to facilitate the movement of food supplies, such was not the idea or intention of the men who made the agreement. Many will recall that Secretary Redfield on the part of the United States and Sir J. D. Hazen on behalf of Canada stressed the point that it was the anniversary of the unsatisfactory treaty of 1818 and that the occasion was most appropriate to come to a lasting peace on fishery issues which had been a source of warm controversy for a century. It is doubtful if anyone can find any indication given at that time that the arrangement was simply a war measure. On the contrary there is evidence that the understanding was to be later implemented by law and that the arrangement was to be continued as per verbal agreement until the necessary legislation was enacted.

It would seem a pity if the effort of the fisheries commission of 1918 went for naught, if the high ideals which sought a final peace on all controversial issues, be forgotten. No one wants a reversion to the treaty of a century ago and the danger of misunderstandings recurring. If the agreement of 1918 is not satisfactory does it not seem wise to discuss the question again and secure a plan that is? It seems difficult to separate the port issue from the tariff and that is why the present appears so appropriate for a reopening of the question. An effective way of settling matters might be for the fishing interests of both countries to confer and attempt to form a policy which would be acceptable in both countries. Subsequently this policy could be carried to the respective governments as a basis of international agreement.

FIELDING BEFRIENDS FISHERMEN

Mr. Fielding's budget deals rather generously with the fishing industry, it appears. While the general sales tax is increased by fifty per cent, exemptions from this tax have been extended by the finance minister to include: fibre for use only in the manufacture of rope not exceeding one and one half inches in circumference for the fisheries; articles and materials used in the manufacture of boats *bona fide* built for individual fishermen for their own personal use in the fisheries.

In addition to relieving from the sales tax articles included in the above provisions, the budget amends the tariff to the fishermen's advantage in the following terms:

Gasolene over .725 specific gravity and not exceeding .750 is reduced from 2½ cents per gallon to one cent under the general tariff.

Manila rope not exceeding 7½ inches in circumference is made free of duty to all fisheries. (Heretofore it was free only for holding traps used in the lobster fisheries.)

Oiled clothing is reduced 5 per cent. under both tariffs.

Oiled hats are reduced 2½ per cent. under the preferential and 5 per cent. under the general tariff.

It is difficult to even approximate what saving will be effected by reason of the exemptions and tariff reductions, but whether large or small, the industry has cause to feel satisfied. The country is carrying a national debt of more than two billions and a quarter. The government must raise money to meet its obligation and pay its operating costs and it should be gratifying that the finance minister has seen fit to come a bit lighter on the fishing industry. And God knows he grants this consideration not without cause.

The Ottawa Citizen says regarding these features of the budget:

"Tariff revision to remove obstacles to the development of this great natural industry should commend itself to parliament. It would be better for Canada if more workers could find the opportunity to maintain such

homes (the editorial previously describes fishing villages along the Atlantic coast) for themselves, by their own independent labor, beyond the ranges of factory whistles and time clocks."

COD REDDENING CONQUERED

One would be a fool in this enlightened age to underestimate the value of science as an aid to industry. It has been the kernel of our industrial and commercial expansion since the time it first shook hands with the captains of business, and it is destined to play an exceedingly responsible role in the future. It is not without regret, however, that we are compelled to note that the contributions of science to the fishing industry have been out of all proportion to the service it has given other branches of industry. Why? Well, the industry itself is a lap or two behind everything else so it is not unnatural that it should be behind in this particular. Whether that situation is the fault of the commercial interests or the scientists, opinion may differ. For ourselves we feel both are to blame.

There are a few exceptions to this general statement as there are to every generality. Conspicuous among these is the report recently issued by the council for scientific and industrial research on the causes of reddening in salt cod and the means to overcome it. Inasmuch as trade in commodities affected amounts to $5,000,000 or $6,000,000 annually and as sometimes the discoloration renders unmarketable forty per cent. of the output, the report is of the highest practical value to the industry. Dr. Harrison of Macdonald College is to be congratulated on the success of his investigations, the accuracy with which he has located the trouble, the definiteness of his corrective measures and last, but by no means least, the simplicity with which he conveys his message to the industry. A technical report on Dr. Harrison's investigations is to be published by the Royal Society of Canada, in which the trade and commerce is not the least bit interested. It was wise to issue a simplified version because, after all, that is what makes it valuable.

We strongly advise those interested to study the report carefully and to follow the suggestions made by Dr. Harrison. Of course if his findings and advice are simply noted they will be of no economic value. There is a big difference between offering a remedy for an evil and eliminating the evil. A physician can only advise a patient. This is one instance, at any rate, in which our physician has been attentive to us. Now will the industry take the medicine he prescribes?

MARITIME REJUVENATION

The knowledge that the maritime provinces got the short end of the deal in 1867 has not burst upon the people of the east until only recently. Ever since the consummation of confederation the truth of the situation has been gaining support. It was Timothy Warren Anglin, father of Margaret Anglin, and anti-confederationist candidate, who predicted that the maritimes would be robbed of their industries should they link up with the other provinces of the dominion. His prophesy has come true. Year after year young men and women who should be training to take control of affairs in the years to come, are emigrating to the western provinces or to the New England states. The movement is not spasmodic nor is it caused by any parochial condition. It is difficult to point to a village, however obscure, whose natives are not today finding employment elsewhere than in the maritimes.

The natural outlet for the product of maritime industries was in the New England states; and when the population of this territory offered a free market the maritimes prospered. When the market was lost the industries which existed could not shift their outlet to Quebec, Ontario and the west because they could not compete with the industries already established there. Consequently we beheld, among other things, the boot and shoe industry, which was one of the former mainstays of the City of St. John, transplanted to Lynn, Mass., and a general exodus of industrial plants and native workmen.

This, as we have said, has not only recently dawned on the people of the east, but it was comparatively few years ago that the three provinces realized the necessity of close co-operation to protect their mutual interests, to recover their former prestige and avert any further migration. The prime mover in maritime co-operation has been Hance J. Logan, M.P. for Cumberland, N.S. and another who has been almost equally active is Hon. J. B. M. Baxter, M.P., for St. John city and county. The movement has had considerable development of late and we find Mr. Logan touring the New England States addressing former residents of his province and appealing: "Will you noo come back again?"

The realization of their loss has been latent among the people in general and it has only required leadership to start things going. We now find the various boards of trade subscribing to the movement. Only a few weeks ago representatives from the St. John and Halifax boards of trade met at Hallfax to mend their differences, to quit further bickerings and petty jealousies and co-operate for the general weal. It has been forced upon them that while they have been quarrelling among themselves they have both been neglected.

Among other things on the aggenda for the recent meeting were the following:

(a) Appointment of a deputy minister of fisheries at Ottawa and establishment of a separate bureau in some central point in the maritime provinces.

(b) Privileges to American fishermen at Canadian ports.

We are not venturing our opinion on these topics. On the former we have already expressed it quite frequently and most vigorously. But the spirit which is demonstrated by getting together and offering a united front inspires the highest commendation and we trust it will bring to the provinces in the east greater consideration from the seat of federal administration than it has been their fortune to receive in the past.

"HOW TO SELL MORE FISH"

The following appeared as a leading editorial in a recent issue of the Fish Trades Gazette of London, England, under the caption — "How to Sell More Fish." Because it applies to the trade in Canada just as much as it does in England, we reproduce it. We could not improve on the way the editor has set forth the situation:

The crying need of the fishing industry to-day is to sell more fish, and in this special number of *The Fish Trade Gazette* is a variety of articles which are designed to serve this useful end. No one, however experienced, could read these contributions without some gain. This industry is differentiated from others by the perishable nature of its produce, so its problems are peculiar. It is useless to increase production—that is, to increase the catches—unless the cost of distribution is lowered. In most industries increased production means lessened overhead charges and more profit; but when your produce has to be sold for what it will fetch at the moment, and there is little or no opportunity of holding back for a better market, many factors have to be considered. The market to-day is a buyers' market. It is a poor world, and, thanks to excessive taxation, the old rich are the new poor. The new rich, too, are a diminishing quantity. Never in the memory of man, or in his wildest imaginings, has the situation been so difficult and the prospect so perplexing. The trade should concentrate, then, on how to sell more fish, for failure spells bankruptcy.

It goes without saying that the cost of production and the cost of distribution must be reduced, and the time has come, we think, for active measures. Meanwhile salesmanship has become a science or a fine art, and it will need mastering more and more. Advertising, too, has advanced in public estimation. The fish trade as a whole does not lend itself to advertising on the grand scale. The late John Mackintosh, who died a young man as ages go nowadays, built up a twopenny-halfpenny business into one of world-wide fame almost entirely by lavish advertising. We dare say the huge sum spent by Messrs. Angus Watson on "Skipper" goods has proved a profitable investment, but, of course, only preserved goods could stand the racket. Advertising in our trade, except in our pages, which are indispensable (we say this in modest confidence), is mainly a matter for the retailers, and to them may be commended the study of signs. Signs, which were made such use of by traders all through the world in olden times, have been unduly neglected. The proverb "Good wine needs no bush" may be partly responsible; to-day it contains only a modicum of truth. Advertising offers a fine field for the utmost ingenuity. The fishmonger may advertise his goods by advertising his own good qualities in public life. Some old-fashioned people think every moment wasted that is not spent in the shop. That is a great mistake. Now, if ever, the trade should rally to its trade organisations—especially as a general election cannot be long postponed, with all its opportunities in fisheries politics, the only politics with which our columns are concerned. There is one well-known company, not in our trade, that despatches one of its directors —it is, indeed, this gentleman's main business—to trade meetings all over the country. He thus travels hundreds of miles, and once he told me that he seldom found a journey entirely profitless.

The public must have this or that, but it can, and does, go without fish when fish is dear. Very foolish, no doubt, and the public ought to know better. But have we all done our best as instructors? Does the average housewife know that, if A is beyond her means, B affords an excellent substitute? She has learnt a good deal during the war, but is only partly educated. Fish should be as irresistible to her as the apple was to Eve. There is one means which might be considered, and that is the institution of a Fisheries Week. The Americans have tried this plan in other fields with conspicuous success. At the end of July last the experiment was tried in France, where, in co-operation with the State Railway Company, those interested organised "The Rochelaise Fishing Week." The programme provided for a visit to the port, sailing and steam fishing-boats, the fish auction, the ice factory, the cold stores; a demonstration of fish-preserving on board the vessels; and a "congress," at which, among other topics, the value of fish as food, the application of refrigeration, and the reforms needed in the trade were discussed. This scheme attracted a good deal of attention, and it contains the germ of what might be developed in very different soil in this country. Any way, no avenue should be left unexplored if the trade is not merely to develop, but to hold its own. It is to the interests of the nation as a whole in these difficult times that the fisheries should flourish.

PISCATORIAL PARAGRAPHS

The Middle Atlantic branch of the United States Fisheries Association is raising a fund of $50,000 for a fisheries advertising campaign. Subscriptions are being solicited among the members but the plan will be carried out only if the $50,000 is raised. Wonder if it would be possible to raise a fund among the fresh fish dealers of the Atlantic and Pacific for a similar purpose, or among canners?

Fishermen of Nova Scotia are much encouraged by the success of the mackerel fishery this year. The fish set in around the first of May and have, contrary to the record of the past few years, followed a course close inshore with the result that big catches are being made. Fisheries experts who have been observing the course of the mackerel for decades declare that a series of years of big catches is at hand.

Remarkable cures recently in the hospitals of London, England, are attributed to cod liver oil, and the Imperial government and British Universities are sending chemical experts to Newfoundland this year to make a study of the oil and investigate its medicinal possibilities. It is not stated in what class of cases the oil has had such wonderful curative results, but is is suggested that it may be applied to a vast number of bodily ills which have heretofore offered more or less serious resistance to the science of the doctors.

United States Congress is beginning to take note of the hazard caused by polluting coast waters by oil waste and similar refuse from ships. The United States Fisheries Association has been persistent in urging the matter upon the attention of the house. Bills are now being prepared to correct the evil which menaces the fishing industry, but local legislation will, of course, apply only to vessels of American register. A resolution is now before both houses requesting the president to call a conference of maritime nations with the view to adopting some international regulations to overcome the situation.

Nova Scotia Starts Technical Instruction

Scope of curriculum to be decided by fishermen themselves—Classes will not open until bankers are all home

By Our Own Correspondent

The Government of Nova Scotia is making arrangements for the opening of special courses of instruction for the fishermen of the Province. The first classes will be opened at Lunenburg, Canso, and Clark's Harbor. Complete plans for these classes have yet to be worked out, but they will not be opened before all the fishermen are home from the banks, and possibly not before January next.

The grant made for these classes is $5,000. In asking the Legislature for this amount, Hon. Mr. Armstrong intimated that further sums would be asked for as the classes developed, and the fishermen indicated an interest in the courses of instruction. Mr. Armstrong thought a demand existed among the fishermen for technical instruction of various sorts, but as the proposed courses were a new departure in this province it was planned to proceed in a tentative manner. It was not proposed to teach the bluenose fishermen how to catch fish, because they were already experts in that game, the minister said. Nor was it proposed to teach Angus Watters how to sail a schooner, as he had proved his ability to teach the best of sailing skippers in New England and Nova Scotia. But there were several kinds of instruction that the fishermen would doubtless profit by. As a ground work they would have classes in general education, and book keeping, and there would also be instruction in first-aid, a thing that would often serve the fishermen in good stead. Another course of instruction would have to do with the economical handling, upkeep and repair of gasoline engines. In addition there would be lectures and demonstrations on the curing and packing of fish. While a start would be made in a small way it was the intention to extend the classes to other parts of the province, and organize courses of instruction to meet what demands might be made by the fishermen themselves.

Fishermen Will Determine Scope

The organization and direction of the proposed system of technical instruction for fishermen, will be under the control of Professor F. H. Sexton, principal of the Nova Scotia Technical College, whose work on behalf of general technical education in this province has been of outstanding importance. During and for some time after the war Professor Sexton was director of the work of training disabled soldiers in the Maritime Provinces, and in that he also made a notable succes. His qualifications, and his enthusiasm are guarantees that the project to establish a system of technical instruction for fishermen in Nova Scotia will be worked out in an able manner, and with every assurance of success.

Speaking to your correspondent, Professor Sexton said that the plans were still in process of formation, and details of the scheme would require some time to work out. Whether the classes would be held in the evening or afternon will depend on the fishermen themselves. Asked if there would be any additions to the classes and lectures provisionally determined on, Professor Sexton said: "Our aim will be to give the fishermen any kind of instruction they want, subject to the limitation of our resources. The development of the system will depend upon the interest of the fishermen themselves. We hope to have the co-operation of all branches of the fishing industry; that indeed is a condition of success."

While the federal and provincial government have devoted large sums for the technical instruction of industrial workers and farmers, and also through grants to colleges for the professional instruction of lawyers and doctors, very little so far has been done in this direction for fishermen. At various times the Dominion Departments have sent experts to the fishing districts to deliver lectures and give demonstrations of curing and packing fish; but the instruction thus provided has been intermittent.

It is believed that the project of the Nova Scotia government represents a definite plan to develop a real system of technical instruction for fishermen in Canada and the experiment will be watched with interest.

The U. S. Technical Course

In connection with the launching of this long-contemplated project in Nova Scotia it is interesting to refer to recent remarks on the success attained by the technical fishery school on the U. S. Pacific coast.

Much interest was manifested by fishermen, canners, motor boat owners, etc., of the Northwest, Alaska, and British Columbia with respect to the short courses offered by the College of Fisheries, University of Washington, Seattle, for the period beginning January 5 and ending March 15, 1922.

Prof. Cobb reports that he had four or five times as many inquiries from prospective students as he had at the same tome in any previous year, and considers this as a most favorable sign of an upturn in the affairs of the fishing industry of the country.

The following courses are offered by the college and prospective students may take as few or as many of them as they can find time for. No preliminary examination is required and no distinction is made with respect to the state or country from which the applicant comes.

The fisheries of the Pacific.
Canning of fishery products.
Curing of fishery products.
Scotch and other methods of curing herring.
Classification, habits, etc., of Pacific economic aquatic species.
Fish and pond culture.
Fresh water plants.
Study of food laws.
Elements of navigation.
Gas and oil engineering for fishermen, etc.
First aid to injured.

A circular describing the courses and giving information as to cost, time required for each course, etc., may be obtained by writing direct to the college.

Stanford's Store Sets Fast Pace

Proprietor of progressive Montreal establishments discloses secrets of his business success—System the keynote

Organization And Good Service

These are the essentials to develop a profitable fish business, in the opinion of Joseph S. Stanford, of Stanford's Limited, Mansfield street, Montreal. And Mr. Stanford is qualified to talk thus because he is one of the few in Canada who have developed the retailing of fish into a fine art. He has proved that the application of sound business principles to the merchandizing of fish can make the fish store a vastly different institution from the sloppy 'shop' which has too often offended the senses of prospective fish consumers. He has proved that the people will eat fish if it is offered to them under attractive conditions and hence, conversely, that the development of fish consumption in Canada is hindered by the employment of shoddy methods among retailers.

Let me introduce Mr. Stanford to those of you who do not know him. It was back in 1905 that the owner of a little St. Catherine street store in Montreal decided to get someone to take charge of his delicatessen counter, and it was then that Mr. Stanford got his opportunity. For two years he applied his energy and ingenuity to this department of the business and it so prospered that at the end of that time he bought the stock of the entire store and became its sole proprietor. It wasn't much of an establishment in size but it was a business magnet, and a few years later it again outgrew its shell. A branch store was opened but the business continued to grow. Then came reorganization into a stock company in which Mr. Stanford secured a controlling interest, and in February 1916 Stanford's Limited moved into its present home in Mansfield street. There one is compelled to pause and admire the fine four-storey edifice with an ornate marble front. It has the outward appearance of a fashionable hotel for living apartments with ornamental iron grilles before the windows occupy the three upper floors. A glance through the street door reveals the error, but the sight that meets the gaze is not with less appealing than the exterior of the fine building. The store is finished in Italian marble and lined with shining glass counters behind which are displayed a various assortment of delicacies—meats, provisions, poultry and fish.

It is noticeable as one enters the store that there is not the slightest odor of a repulsive character. Stepping in from a warm street one is first impressed by the coolness of the atmosphere, thrown off by the refrigerated pipes used to preserve the various foods in the cases. There is a freshness in the air, and one is unconsciously put in good humor because his senses of sight and smell have been pleased.

As one steps to the fish counter there is further reason to be favorably impressed. The various wares are enclosed in a glass case, protected from flies and the deteriorating effect of exposure. Cold pipes keep the temperature within the cases to a low degree. This precaution does not slow the work of the clerk for an opening is left in the rear of the case that he has only to reach in and secure what is desired. And within the cases the slices, fillets and whole fishes are neatly arranged on enamelled platters, delicately garnished with green.

Always Served Promptly

Perhaps the most striking feature of one's experience in the store is that he is served without delay. There is no loitering about waiting for the attention of a clerk. No matter what hour of the day one enters, there will be found a clerk ready to look after his or her requirements, and in this, Mr. Stanford has accomplished what has been largely instrumental in making his business successful.

The writer drew this fact to Mr. Stanford's attention. Mr. Stanford stated that it was the first difficulty he had to solve, and it is probably still a difficulty with a good many fish merchants. There are always busy hours and slack hours. Special help was required to wait upon customers during the busy hours and during the balance of the day there would not be enough work to keep them busy. In Mr. Stanford's Mansfield street store there was invariably a big rush in the afternoon after the theatre performances. Customers would come in and want a certain fish. The fish would be put on the scales and weigh, possibly, three or five pounds. Then: "Would you please fillet it for me?" The clerk would have to stop and spend a good many minutes filleting and trimming the fish, while a line of customers waited.



Interior of Store

Mr. Stanford called his clerks into conference and pointed out that this work of slicing, filleting, cleaning, trimming, etc., should be done prior to the serving of customers and the price of the commodity should be regulated according to the amount of time required to prepare it. Being long accustomed to the old methods, of course the 'boys' couldn't quite see it. However the scheme was tried. For a time customers preferred to have their filleting done in their presence, but gradually they came to prefer the improved system for very obvious reasons. Today none of this filleting or trimming is done before a customer, and the efficacy of the

scheme of organization is demonstrated in the fact that the sales of haddock increased four or five times in a remarkably short time. The same is true of other fishes.

During the slack hours the clerks are busy with the preparation of the fish so that during the rush hours they are relieved of any work other than giving attention to customers. In this way not only is the patron satisfied but there is a tremendous economic saving in being able to utilize one hundred percent of the clerk's time in necessary employment.

How Telephone Orders Are Filled

The major portion of Stanford's business comes over the telephone. Anywhere from 3,500 to 3,800 orders are taken each week. These orders may contain a variety of requirements—meat, fish, provisions, etc., etc., What is done with them? Six trained girls who receive the 'phone calls in the office, classify the articles. There are five distinct departments and the order is broken up and distributed to the departments concerned by means of a carrier system. The departmental clerk is supplied



The Home of Stanford's

with two copies of the order. He prepares his parcel attaches one copy to it and the other he puts on his own file. The parcel is put on a conveyor above him and carried to the shipping room where experts arrange parcels for expeditions delivery.

A patron who sends in a variety order may receive portions of his or her order in different deliveries. This does not mean poor service in the last delivery but absolute perfection in the first. The parcels are put up and despatched as quickly as it is physically possible to attend to the orders.

In the central part of the city there is a delivery each hour; in a zone further removed a two-hour delivery, and so on. From ten to fifteen vans are kept constantly busy and each driver is kept on a specific route. A driver concentrating his attention on one route becomes acquainted with patrons and performs his duties with a maximum of efficiency.

Has Cash and Carry Store, Too

In addition to his Mansfield street store, Stanford's Limited operates another store in St. Catherine street only a few blocks distant. This is run on the cash and carry system. Incidently it was the first cash and carry store in Montreal and one of the first in the country. It was opened in the fall of 1917 about six months before the Canada Food Board suggested this basis of doing business to curtail the mounting cost of living. During the first twelve months of operation, Mr. Stanford says, December 1917 was the only month the business made a profit. In the next twelve months the firm just broke even. But the third year the store began to pay and business since then has been expanding by leaps and bounds. Mr. Stanford was confient of the ultimate success of the cash and carry system and he had the utmost faith in his organization, so that he did not figure he was gambling at all. To achieve the success he desired merely meant courage and stick-to-it-iveness, which are characteristics Mr. Stanford has in any amount.

In his two stores Mr. Stanford handles between 20,000 and 30,000 pounds of fish a week. Last year 160,000 pounds of salmon were sold, one hundred thousand pounds of which was handled across the counter.

Since the time he started in the business seventeen years ago Mr. Stanford has had success upon success. It cannot be said that he started with any special advantages except those of character. His achievements should be an inspiration to others in the retail fish trade. They disclose the possibilities that exist and the unerring truth that people will buy fish if you cater to them properly.

A Store Worth Visiting

It is well worth while for anyone visiting Montreal to see Stanford's store, especially the Mansfield street one. The genial proprietor is always pleased to show you about. There is nothing in his system that he will not gladly explain. He is not in the least bit jealous of others, but on the contrary would feel himself doing a service to the industry if he could help to bring about a general improvement in the present widespread system of doing business.

He will show you his ammonia refrigerating plant which preserves his stocks of meats, poultry, fish, etc., in storage in the basement, in the reserve stores adjoining the main store and in the glass case displays. He will show you the secret of his sales organization and the manner in which he keeps his store attractive. He does not neglect his front store display, either, as is generally the case with fish merchants. In fact his windows are always so artistically arranged as to make the mouth of an epicure water.

And this, as Mr. Stanford says, is all the result of organization and service. Probably there is no better way of gauging his achievements than by the judgment of his fellow citizens. He has recently been elected president of the Kiwanis Club in Montreal. And to use flippant language, that says a mouthful.

FISH IS BECOMING POPULAR IN THE DINING CAR.

Probably no indication of the growing demand for seafoods is more noticeable than the increasing popularity of fish on the dining cars of the Canadian National Railways. Close to two hundred thousand pounds of fish were consumed on Canadian National trains during the year 1920, and during the past year there was evidence of a big increase.

Statistics of the varieties of fish served on the trains tell the same tale as statistics of our general fish consumption. During the year 1920 thirty-one different varieties of marine food were offered for sale on the Canadian National Railways but the great bulk of sales was confined to whitefish, lake trout, salmon, halibut and cod. Mackerel was popular in its season.

Tells How to Stop Cod Reddening

Dr. Harrison traces source of evil and gives practical suggestions to eradicate it—Mined Salt blamed

An extremely valuable report on investigations into the causes of the pink or red discoloration which has been a serious menace to trade in green salted and dried codfish for some years, has just been issued by the council for scientific and industrial research, Ottawa. Reference to the red vegetable growth, for such it is, as a "menace" is not without ample justification, to which fact a few figures will bear incontrovertible evidence. Next to salmon cod yields the greatest returns of all Canadian fishes. Approximately sixty percent. of the species is marketed as dried, green-salted or boneless and these varieties brought a revenue in 1921 of $5,169,266. These are the very forms of treating the cod which make it subject to the red discoloration and it is estimated that sometimes as high as forty percent. of the output is affected, and once affected it is next to impossible to find a market for the fish, and if possible, only at a fraction of the original value. So it is obvious that the report in question is of vital economic interest to the country and particularly to those engaged in the manufacture and export of cod treated with salt.

The report is a popular account of experiments conducted on behalf of the council by Dr. F. C. Harrison, principal of Macdonald College, Ste. Anne de Bellevue. A technical report on his investigations has also been prepared and will be published by the Royal Society of Canada. Dr. Harrison was assisted in the work by Miss Margaret E. Kennedy, assistant in bacteriology at Macdonald College.

It has been discovered that the discoloration is due to the salt used in curing, as was anounced in the last issue of the *Canadian Fisherman,* and a simple and practical process has been worked out for avoiding losses in future. Space prohibits the publication of the complete report but the following extracts give the salient features:

* * *

The infection, though comparatively new to the Canadian trade, has existed at various times, and in different countries for, at least, the last forty years, during which time investigations as to the nature of the discolouration have been carried on rather from a scientific, than from an economic, standpoint. In the past the fish was marketed usually, during the colder months of the year, so that there was not so large a percentage of spoilage as prevails to-day; and whatever loss dealers did experience from reddening was regarded more or less as incidental and unpreventable. Not so to-day. Progressive civilization demands not only increasing attractiveness in food displayed for sale, but also a product procurable at all seasons of the year—preferably out of season. This necessitates infinite care in preparation, requiring additional labour, and adding to the expense of production; but more than that, fish marketed during the warmer months of the year seems more susceptible to the red infection than that marketed during the colder months. To-day, dealers are alarmed at the loss from this source, and anticipate a satisfactory remedy. Consequently, we are confronted with a problem of considerable economic importance.

Another factor which must be mentioned is the increasing competition from Norway in the world's markets. Where such competition is keen, it is of utmost importance to provide a fish which is well cured, attractive in appearance, and which is not affected in any way by any kind of discolouration. The country which succeeds in putting up the best article, and keeping it uniform from year to year, will undoubtedly, secure a larger trade and obtain the higher prices.

The occurrence of red colouration on foodstuffs is of extreme antiquity. Down through the ages we have many references to foods, such as bread, beans and meat, becoming red or bloody. And about fifty years ago the presence of pink or red color was noticed on codfish coming from Newfoundland, Canada, and Norway. A number of investigators made it the subject of special study, and from their numerous experiments, proved that this discolouration was due to low forms of plant life. The present investigation has been attempted in order to find the cause of the reddening, to learn something of the conditions favouring its development, to ascertain the source of the infection, and to suggest a means of prevention.

Salt Source of Discolouration

Whence comes the organism? How does it come in contact with the fish? If there were no red organism present, most certainly no red colour could develop on the fish. Undoubtedly the source of the trouble is found in tropical salt, that is, salt obtained by the evaporation of sea water in tropical or semi-tropical regions.

The estimated quantity of salt used annually in Eastern Canada in fish curing is 40,000 tons, valued at $480,000. This salt is produced in many places. It may be divided into two classes:—

1. *Mined Salt,* coming either from deposits in crystalline form, or from areas underground where sufficient moisture is present to produce a strong brine, which is pumped to the surface and then evaporated. Examples of this kind of salt are known to the trade as *Liverpool* (English salt coming from the Cheshire and Yorkshire mines); *Windsor,* from Ontario; and *Malagash,* from Nova Scotia.
2. *Sea or Solar Salt,* Salt obtained by the evaporation of sea water, coming, as a rule, from countries having a seaboard where the climate is dry and the summer of long duration.

Portugal, Spain, Italy, Austria and the West Indies produce the largest amounts of sea salt, and the brands most commonly used in the Canadian fish trade are known as:—

Setubal (Portugal), Cadiz, Torrevieja and Iviza (Spain).

Trapani (Italy), Turks Islands (West Indies).

This salt is obtained by evaporation of sea water in shallow areas or basins. The method of preparation is as follows:—

Sea water at about 10 degrees saline strength is admitted through flood gates, by tide pressure, into the main reservoir, where it remains for from ten to twenty days, according to weather conditions, increasing in salinity from two to four degrees per day in dry weather. During this stage, the vegetable matter is deposited in a sort of mossy

slime, on the bottom of the reservoir, where it is killed as the brine reaches a strength of 40 to 50 degrees, which occurs after about two weeks' standing.

From this main or "weak" reservoir, the brine is turned by surface water wheels into smaller divisions, and during the second stage of evaporation, when it increases to a saline strength of 80 to 90 degrees, the lime and other impurities are eliminated. During this process, a coating of scale and mud is formed on the bottom of the pans or ponds, the deposit containing a high percentage of lime and other impurities.

When the brine reaches a hundred degrees saline strength, the point at which crystallization begins, it is again turned into other areas or ponds, the bottoms of which are of firm marl carefully scraped and cleaned from time to time, and which, from being constantly worked over and exposed to the sun, are nearly as solid as an asphalt pavement and quite impervious to water. The salt crystals form in cubes on the bottom of these pans and grow into one another, forming a cake of salt varying in thickness from one to six inches, according to the length of time the process continues. When the salt is gathered, the surplus brine is drawn off, and the cake broken up and carted out to the points of shipment.

The salt, when first gathered, usually has a decidedly pink cast, but this disappears as the salt is stacked up and exposed to the strong glare of the sun and a hot dry wind. Most of the brine shows a very pink colour during the time the crystallizing is going on, but this disappears from the salt after it is dried out. According to the statement of the manufacturers of solar sea salt, there should be no pink colouration in salt properly cured by three to six months storing after gathering. In other words, time is the principal factor in rendering the salt free from the red organism. It is, however, more remunerative to grind and ship salt within a few days or weeks after coming from the ponds, as loss from rain is avoided, and there is less handling and storing. On account of the large demand from Canada and other countries, much newly made salt is shipped, and in consequence it has been largely infected with the red organism.

It would be advisable to check, by proper laboratory methods, the contention of the salt manufacturers, that the red organism will die in salt stored from three to six months under semi-tropical conditions. In any case, it would seem advisable for our importers to insist on being furnished with old salt that has been stored for a period of at least three months.

Fisherman Differ

Pure salt should contain only sodium chloride, but all commercial salts contain a certain amount of impurities, sea salt, as a rule, a larger amount than mined salts.

There is a difference of opinion among fishermen as to the best salt for curing fish, but undoubtedly the majority of them favour the use of sea salt, as they consider that fish cured with sea salt are more evenly "struck," and that the fish are more moist and there is no hard crust on the surface of the fish. The mined salts are usually in finer crystals and when used the fish are more quickly "struck," but the salt does not penetrate to the interior so well. It has been suggested that the quick coagulation of the surface protein prevents the penetration of the salt to the interior.

Undoubtedly sea salt is more hygroscopic (absorbs moisture), and cured fish, if not well dried, will often sweat or become very moist, due to the solar salt taking up water from the atmosphere. Such substances as calcium and magnesium chlorides, are very hygroscopic, and their presence in ground salt produces caking when moisture is present.



Reddening May Have Ruined Forty Per Cent. of This

(Continued on page 129)

Adheres to Migration Idea

Declares practical experience clearly refutes theory that mackerel simply move offshore —Fall Fishery a fact

By M. H. Nickerson

Contrary to the received opinion, an absurdity does not always cease to live when knocked effectually on the head. For instance, the notion that the ways of mackerel are altogether different from those of other fish, seems to have more lives than a cat. Though clearly refuted by undisputed evidence and first hand experience, some few people, who ought to know better, still contend that mackerel remain in deep water during the winter, like hibernating bears, and approach the shores in the spring after the manner of rusticators. They say it is now considered settled that the mackerel is not a migratory fish.

That was the idea seventy-five years ago, long before a seiner was in existence, and the dwellers on any headland where the fish showed up supposed the same school hung around in the offing all summer. But real fishermen had already arrived at the right conclusion, and the trips to southern waters demonstrated beyond the shadow of a doubt that the northern migration of mackerel in spring began near Pimlico Sound and ended for the most part in provincial waters, notably the Gulf of St. Lawrence. The drifters, coming into use later, put into practice the knowledge gained from observation, and set their strings across the inshore tidal current, alternating every six hours. On the Jersey coast no schools are ever sighted steering straight for the strand, or going nine ways for Sunday, but moving on a course paralled to the coastline, in compact bodies often far apart but following the same trail as regularly as an army on the march. The trend of the trek as it sweeps north is practically the same from Yarmouth to Malpeque.

Of course the theorist is not aware that mackerel, in their periodic movements, swim most of the time on the surface of the water, and consequently can be trailed with more certainty than game in the wilds. This fact prompted me to recommend the scouting service, which is just now doing wonderful work on the marine beat. Both the 'Arras' and the 'Arleux,' under able command are acting as pathfinders to direct both seiners and drifters which are daily putting out from the Nova Scotia south shore, and returning with a rich harvest. The experimental stage is past; practical work is now paying very well. The Yarmouth boat arrives in Boston this morning with 3,000 iced barrels. As I write these lines the telegraph ticker says one of the Cann steamers is chartered to bring another load. And again, scouts report many schools both inside and beyond the three mile limit, all moving east. "Three succeeding messages bring the same good news. All sections of the shore are getting their full share. A pound of those fish is better than a ton of theory. The price is ten cents this morning. Boston imports from Yarmouth the last ten days amount to $100,000.

Fall Fishery Actual Fact

The old countries furnish no criterion. Conditions are different, and results vary accordingly. When the Scotch herring-drifter "33" came some years ago to operate off Cape Sable, I engaged a pilot for her at the request of the management. On the winding up of her cruise, that man told me the captain insisted on making his sets eighty miles from land, as did the boats out of Aberdeen.

Consequently all his voyage consisted of fourteen sharks, and the shore boats had to supply him with samples from their set nets! It is of the utmost import to understand the situation aright. The southward run in the fall has never been chased by Nova Scotia seiners or waylaid by the drifters, because learned men told them there was no such trek, and the schools do not show up in the same manner as in the earlier migrations to the spawning grounds. I constantly urged that the scouting should be continued at that season of the year. It was not done; but publicity put others on the track, and one Boston boat last October stocked $18,000 in three days' cruise out of Hawkesbury where the fare was landed. About the same time an American seiner with a Nova Scotia skipper landed 50,000 prime fat mackerel at the Boston Fish Pier, all taken fives miles off Shelburne while native netters were not in commission!

The increased activity in this branch can be directly traced to the work of the mackerel scouts, which have been on service at this season for the last three years. Unwisely they were taken off duty when the summer swarming was over, but I am assured by the department this same patrol system will be extended the coming fall. At the very hint of it expectation is on tiptoe is the eastern sections. North Sydney is preparing to do some seining on a great scale. Its success can be almost safely predicted. Now if the log-book of the scout 'Arras' had only been given to the public last year, it would have settled the migratory question beyond all cavil. For some reason hard to guess, only some extracts were given in the blue books, and these made confusion worse confounded by a manifest endeavor to fit them into the basic theory aforementioned, by hook or by crook, mostly the latter. Let us have the whole truth.

All of the big mackerel traps on the South Shore, which fill up with the passing fish every day, are set, not with their doors opening seawards, as if to take any on-coming schools; but directly the opposite. The whole contrivance, leader and all, is often three hundred yards long, costing thousands of dollars. The door faces the beach, at right angles to which the deep web of pole—hung twne, called the leader, runs to the said door to guide the mackerel into the heart of the trap, a huge enclosure, partly overlapped by the bowl connected with its outer part. The mackerel are invariably trimming the shore and strike the leader nearly head on. They never turn right about, but follow along the leader as a flock of sheep does a fence, till they find the opening and enter the trap. What further proof can be reasonably demanded as to the migratory habit?.. Exact knowledge in this case, as in all branches of enquiry, must be founded on personal observation and experience. I should not venture an opinion here, nor seek a line of space, had I not taken part in handling the drag-seine, purse-seine, set-net and drift-net for good many years. By nature I am not too credulous; but in daily life I feel compelled to accept the evidence of my own eyes, much like other ordinary mortals!

Lunenburg Fleet Does Well

Landings for Spring catch in excess of last Year—Price same as obtained in 1921, but conditions more favorable

Seventy-six vessels of the Lunenburg fishing fleet on the spring trip caught 44,625 quintals of fish, or an average of 573 quintals per vessel, which is very good for the first trip. This does not represent the total catch, as a number of vessels had not reported when these totals were compiled. However, the amount of fish landed for the spring trip was considerably in excess of last year. The price obtained for the spring catch was $8.00 per quintal, being the same price as last year. The weather was not favorable for the drying of this catch. Practically all the fleet on the first trip took frozen bait and got away early.

When this was written the reports from the vessels on the second trip were very unsatisfactory. Twenty vessels were lying at Queensport without a quintal of fish to their credit, while they had only two weeks to complete the trip, return home and get ready to start for the Grand Bank fishing at the usual time.

Following are ehe catches of some of the vessels on the first trip:

	Qntls.
Araucania, Conrad	400
Arcola, Knickle	550
Alcala, Knickle	750
Alicante, Romkey	500
Aronaka, Hyson	450
Dorothy Adams, Berringer	350
Marion Adams, Parks	700
Madeleine Adams, Heisler	550
Ruth Adams, Decoursey	400
Bluenose, Walters	700
Arthur J. Balfour, Crouse	400
Grace D. Roehner, Mossman	450
Frank Baxter, Burgoyne	550
Grace P. Brown, Knickle	500
Selma Creaser, Creaser	500
Clara Creaser, Creaser	600
Eugene Creaser, Creaser	300
George M. Cook, Cook	650
Kathleen Creaser, Creaser	400
Lucile M. Colp, Bushen	450
Uda A. Corkum, Corkum	800
Doris L. Corkum, Corkum	400
J. E. Conrad, Corkum	400
Lois A. Conrad, Conrad	400
Harold Conrad, Conrad	500
Norma L. Conrad, Conrad	500
Norma P. Coolen, Andrews	350
Delewana, Cook	250
Democracy, Deal	700
Daisy Marguerite, Mossman	900
J. Duffy, Spindler	450
General Haig, Backman	600
Glacier, Knock	750
Annie B. Gerhardt, Gerhadt	900
Hermada, Corkum	800
Madelyn E. Hebb, Hebb	550
Elsie M. Hart, Corkum	750
Hazel E. Herman, Sperry	500
Vera E. Himmelman, Wagner	500
Mary A. Hirtle, Hirtle	500
Marjorie E. Hennigar, Ritcey	400
Hilma Pauline, Lohnes	150
Freda M. Himmelman, Himmelman	800
Independence, Himmelman	450
Jennie Elizabeth, Ritcey	450
Sadie E. Knickle, Jorgensen	900
Lauretta Frances, Spindler	900
Marian Elizabeth, Westhaver	400
Mahaska, Mack	500
Mona Marie, Ritcey	625
Manuata, Risser	700
Mary Pauline, Romkey	800
Gladys M. Mosher, Mosher	750
Agnes G. McGlashen, Wambaek	600
J. Henry McKenzie, Whynacht	550
Neva Belle, Wentzell	600
Edith Newhall, Schnare	500
Ocean Maid, Himmelman	500
Patara, Wentzell	500
G. A. Rhuland, Myra	700
Lucille M. Smith, Beck	500
Vivian P. Smith, Wharton	800
Jean E. Smith, Selig	700
Benjamin C. Smith, Wentzel	750
Frances W. Smith, Mosher	700
Joyce M. Smith, Maxner	100
Frances Spindler, Spindler	700
J. H. Sinclair, Crouse	700
Shepherd King, Himmelman	600
Lois J. Thomas, Himmelman	700
Gilbert B. Walters, Walters	800
Bertha Walters, Spindler	700
Ada M. Westhaver, Westhaver	400
Muriel Winters, Winters	700
Bernice Zinck, Zinck	700
Marguerite Zinck, Lohnes	600
	43,575

Second Trip

Alcala, Knickle	250
Joyce M. Smith, Maxner	350
Muriel W. Winters, Winters	450
	1050

PRINCIPLES INVOLVED IN THE PRESERVATION OF FISH BY SALT

During February the U. S. Fisheries Bureau issued document No. 919 with the above title. This is a practical paper of interest to the commercial salter of fishery products. Among the subjects discussed are the following: How salt preserves; how salt extracts water; factors affecting permeability of fish; flavors of salt fish; dry salting and brine salting compared; loss of nutrients in brine; influence of method of cleaning fish on salting; improved method of salting fish, especially for warm weather; behavior of fat during salting process; accessory chemical agents and other factors in salting, etc.

Persons interested in the subject may obtain copies upon request as long as the Bureau's limited edition lasts, or by purchase for 5 cents a copy from the Superintendent of Documents, Government Printing Office, Washington, D. C.

Why Fish Prices are Never Stable

Advice from practical man is for industry to co-operate—Education for consumer and standardization for packer

By W. J. VHAY

Thanking this paper in advance for space allowed, and hopping I may "start something" along proper lines, I ask you to go along with me patiently. The impetus for this writing is the outcome of a few visits and observtions in parts of your great coasts.

I am looking at it as an outsider, who is keen for the future of all products of great Mother Ocean, and much interested in the industry's development.

Come along on this little journey with me and have your ticket punched right through to a station called "Co-operation", which should be on the main line of our business life, and not a side tracked station or "off the map".

One of the things that struck me forcibly on my first few visits to the coast towns was the lack of understanding as to price or cost among a great many producers.

It was a common question with many of them: "what do you pay?" and I also get the same inquiry by letter.

You will say this is a custom as fish folk in small towns and outlying places are not in a position to keep posted. While I agree with you this might have been the system years ago there is no excuse in this advanced age of telegraph, telephone, radio-phone and fast service by rail and steamboats besides the vehicle of trade papers.

The whole trouble lies in some kind of a unit system in a community to gather and condense this information. Your government is keen for co-operating with all our industries in matters of research, transportation and anything needed to help the industry, but what is the use of such information unless there is some central point to receive same and distribute it. Otherwise it is "shot wild".

A few years ago the fruit growers of California, the apple growers of the western states, the banana growers of the tropics, the green truck gardeners of the south, and the berry growers of the central middle states were in much the state of chaos that exists among you to-day.

They started intelligently to remedy this, and by co-operation made their business a really profitable one, and to-day the small grower and the large grower market their goods by different concentrated methods which are profitable to themselves and also to the dealers.

Shipping on Consignment Evil

In years gone by it was the custom among the growers of fruit to ship goods on consignment, and it also was the custom, I believe, among the fishermen. The lack of co-operation among the shippers causes the ruination of many well-intended shippers. It would happen this way: Bill Jones of Anchorville made his shipments to Suretown and found a good market. His neighbor started shipping to the same town. Pretty soon old Sam Eagle-Eye, snooping around the depot stole the name of the consignee off the package and he started shipping.

Suretown woke up with double the quantity of goods it could consume and it went to smash, and the trio of shippers could never figure it out. How much better would it have been if the shippers had got together and talked things over. But no, petty jealousy seems to permeate small town people and this is the reason the town stays small.

The fish producers are not all flounding as you might think I am trying to make out. Good broad business men exist everywhere among the Canadian fisheries as well as in the States, but the fish business surely does not grow as it should, and there is something wrong somewhere. Hundreds of millions of human beings are in need of this food, and are in reach of it, but take your own statistics, of the amount of fish sold, and figure on the basis of a hundred million human beings who might eat fish one day a week and you will find that it compares favorably with a doctor's perscription that is labeled "Poison, with care".

What is the trouble? I have heard this question put hundreds of times by fish dealers, and in fish trade papers, and I do not think any one has answered it yet. However, I will try my luck, as it will do no harm to make a stab at it.

Prescribes Treatment

I prescribe education for the consumer, standardization by the packer. To handle both these things the fishing interests will surely have to work together or the business will stand just as it is to-day. The lemon growers of California are a close community body. They have a standard of pack for every box of lemons that is shipped, and if not packed correctly it is thrown out and sold for junk. Every man in the organization knows this and lives up to the rule. The next step is to make people eat more lemons. A small tax of probably ten cents per box puts their product before a hundred million people, asking people to make more lemon pies, use lemon juice for making soft skin, the soap manufacturers are advertising lemon soap, soft drink parlors are buying lemon juice by the gallon and consequently the lemon growers are producing more lemons and planting more lemon trees.

Co-operation does not mean opening up your private accounts to your neighbor or that it is necessary to get socially thick with him. There is difference in business between co-operation and consolidation. In the former you have control and your individuality, in the latter you lose both.

The stock raisers of the country have the everlasting feed proposition to battle with, the food growers and vegetable growers have the soil to till, weather conditions, and the deadly insects to contend with, and with all these troubles they have time to give to business interests and get together for their common good.

The trouble is not only with the fish producers, but as a rule it pervades also the jobber and retailer of fish. It seems that the whole fish business has a tendency to go against the course of least resistance. A small fish store as a rule never thinks of having a clean, bright, well-kept store, clean scales or clean uniforms, and I would not be surprised that the consumer feels that this is the proper way of doing business. The wholesale grocers carry a certain amount of salt fish as a side line. Very few large wholesale grocers have an intelligent fish buyer. I have seen many a time one buyer trying to pass the buying of the fish to another person, and sometimes it would make you dizzy to find out the right man. The grocery salesman has the price list of fish somewhere in the back of his price book and only refers to it if there is an urgent call. Down the whole line from the producer to the consumer it seems to be a business that a well-dressed man would be ashamed of, and I attribute a great part of this to the

(Continued on page 128)

Keep the

CANADIAN FISHERMAN

coming to you.

THOSE who receive this issue of the Canadian Fisherman as a sample copy—and we refer particularly to retail dealers throughout the country—are requested to peruse it carefully and decide whether or not it is of value to them. We would draw the attention of retailers especially to the article describing the success of Stanford's Limited in Montreal by the application of sound business principles. There is another article which submits some very pertinent questions to the retailer regarding his duty to the industry. Mr. Vhay, who is a practical fish man, in another article, also treats of the retail phase of the fish business; and there is a paper dealing with the safeguarding of fish orders in transit from the retail store to the consumer.

In addition there will be found a fund of information on the fish business in general and we think you will agree with us that for the sake of two dollars ($2) a year you cannot afford to be without it.

Fill in the form below and mail it immediately and your name will be continued on our mailing list. Act now. Don't risk the loss of a good thing by putting it off.

.....192..

The Industrial & Educational Publishing Co., Ltd.,

Garden City Press, GARDENVALE, P. Q.

Dear Sirs:

Please send me the Canadian Fisherman beginning with the next issue, for which I agree to pay two dollars ($2) yearly. (Three dollars outside Canada, Great Britain and Newfoundland.)

Name

Address

Vessel owner
Vessel fisherman
Boat owner
Boat fisherman
Manufacturer
Wholesaler
Retailer

Please indicate by lining through others, under what classification you fall. If you fall under more than one please so indicate.

A Few Things for Retailer to Consider

The most important link in system of distribution is the corner store—How does it impress people?

Without doubt the most important link in our system of fish distribution is the retail merchant. No matter what steps others may take to educate the public as to the nutritive and economic value of a diet liberally rationed with fish, the actual development of our fish consumption rests almost entirely with the retail dealer. Whether or not people will eat fish depends on whether the service the fish dealer gives is good or bad. In so far as the local market is concerned the welfare of the industry is in his hands. Each time a sale is made across the counter let him consider:—"Is the quality of the goods worthy of me? Am I doing my full duty to the country? Is this sale liable to encourage a greater use of fish or may it discourage its use entirely?" A few sales of fish of doubtful quality may lose more patronage than is to be gained by spending twenty times the profit in these sales. Every branch of the fishing industry must co-operate to develop the Canadian market. Your contribution in this co-operative effort is essential to the development of the industry.

Your Business

Do you know how your business for any stated length of time compares with the corresponding periods of previous years? Do you keep a record of the volume of different species sold over your counter? Could you tell, for example, if the species for which you have the greatest sale today were the most popular five or ten years ago? This is data which would not only be interesting but may be of material assistance to you; and it suggests other information which may be readily compiled and used to advantage.

Are you making any special effort to popularize new species? As you probably know, there are upwards of six hundred species of fishes in our waters of which more than two hundred are not only edible but palatable and nutritious. Of all this number not more than twenty-five find a regular place in the Canadain markets, and the popular fishes may be counted on one's finger tips.

There are substantial economic reasons why the variety of fishes on our market should be increased. The cheapness of the commodity is and will continue to be a big inducement to purchase fish, and it is a feature that cannot be ignored. Do you realize that only 70 per cent. of the fishermen's total catch is marketable? Good edible species such as flat fishes are tossed back into the sea. There is a 30 per cent. waste, which if marketable, would return fishermen a bigger profit on the whole and make possible a reduction in the price of "select" stock. Do not concur in the prejudices of your patrons against new species which come on the market. Urge them to sample the food qualities and ignore the immaterial characteristic which have been the foundation of their prejudices. Do not encourage patrons to restrict their fish list to a few popular species. Variety appeals, and this applies more to foods than anything else. No other food source can offer such a variation. The woman's problem is to keep her meals from becoming a monotonous repetition. If she is familiar with numerous fishes she will be more liable to introduce sea food frequently on her table.

Your Store

A great many dealers are so preoccupied with business details that they frequently overlook some of the larger and more important matters. Did you ever pause to think whether your place of business was attractive? You may possibly recall numerous instances of being lured to making a purchase by the neatness of a store or its smart window display. Is your store so enchanting or is it liable to drive passersby to the opposite side of the street? Probably it was never put up to you in this way before. Just go into the matter now and see how your store inside and out would appeal to you as a stranger. All successful business men must be students of psychology. To achieve results that appeal they must put themselves in the other fellow's place and cross-question themselves from a purely impersonal viewpoint.

First of all, the store should have not necessarily a pretentious but an attractive front. There should be a liberal use of paint, clean window glass and neat window displays—if it is your policy to make such displays. If you dress your windows at all do not be half-hearted about it. Use clean porcelain or white enamel trays, chopped ice and where appropriate use greens to garnish. Above all things do not use dirty containers of any description, not only for fresh fish but for any class of fish. A window containing boxes of smoked fish or any similar display is seldom attractive. Original



Mecca for Flies Unless Covered

containers are for protection in transit and have served their purpose. Usually the exterior is soiled and marked and proves a mecca for flies. A well decorated window is a bigger asset than many of our fish vendors seem to imagine.

Within the store the walls and floor first meet the eye. Are they clean and are they readily kept so? Not only should they be clean but they should have the appearance of immaculate cleanliness. Are your fixtures bright and clean?

If you have your place free of offensive odors you have made an impression on customers thus far. But a pure atmosphere is an important element. A fish odor is not offensive but a stale fish odor, to which many species have contributed, is anything but pleasant. Good ventilation is always essential.

Now how is your customer impressed as he approaches your counter? Is your fish exposed on slabs and without ice? You know that fish has not the keeping qualities of other foods and in your own interest you should see that putrescence is delayed as long as possible. Fish should be displayed under glass and on clean platters.

A liberal use of chopped ice will suffice to preserve the commodity and keep away flies. Refrigerated pipes are preferred, but comparatively few have the advantage of an ammonia plant.

In connection with displaying fish it is exceedingly interesting to study the results of a survey made in Pittsburg, Pa. It was found there that thirty-three firms displayed fresh fish in glass-covered cases cooled with chopped ice, twelve in glass cases cooled with refrigerated pipes, nine in original containers cooled with chopped ice, and twelve kept their entire supply in ice boxes, no display being made. Ice was used in conjunction with all the displays and 86 per cent. were made in enclosed cases.

As far as the writer knows, it is not a general practice of Canadian fish vendors to display fish under glass, but it should be adopted as a general standard. Larger dealers in big cities have elaborate equipment, but no matter how small the store nor how small the patronage, it is always possible at very little expense to adopt the principle of keeping the fish display protected.



Window Display Counts a Lot

Just one more point about the store. What do you do with scraps and offal? Have you made arrangements so that this waste is not left exposed to the gaze of customers and do you dispose of it regularly to prevent contamination of the air?

Your Patrons

Is there a close relationship existing between you and your patrons? Do you make any special effort to increase their ration of fish? Have you ever impressed upon them, either verbally or by means of literature, the many advantages of their more frequent use of fish?

Do you go after new customers or do you leave your business to the mercy of chance visitors to your store? Do you advertise? If so, do you do your best to make it telling?

There are just two ways of increasing your business and developing the Canadian market—first, by inducing people to eat fish and to eat more of it; and second, to cause others who arenot already using it, to introduce fish in their diet. These general principles apply to our whole system of fish distribution, as well as to your business. Do you know that only about one-quarter of the Canadian population is within reach of a fish supply? It is largely a problem of transportation and distribution to improve the situation. But how many in your locality are taking advantage of your fish supply? The industry depends upon you to develop your particular field.

Mr. Retailer, do you give reliable telephone service? As you know, people are depending more and more upon this vehicle to do their day's ordering. Are you just as honest in meeting their requirements as in the case of call customers? A firm in Montreal, which the writer has in mind, does about 75 per cent. of its business by 'phone and has established an enviable reputation for reliability. A satisfied 'phone customer will call again. A displeased one will call elsewhere to order her meals and nine chances out of ten she will not call a fish store.

Have you been in the habit of unloading left-over inferior goods on your customer? Do you believe it is good business? Do you not run the risk of losing your customer, or if your sale is to a casual buyer, do you not forfeit the chance of making him or her a regular buyer of fish? Is it not more economical business to take the loss directly and dump the goods?

There is a word to be said about frozen fish. As you know, the buyer must handle it differently from fresh fish to get satisfactory results. People are being taught that frozen fish is good and wholesome, but they must have an opportunity to test it properly to verify this statement. Do you distinguish definitely between fresh and frozen fish? Should you deceive your customer either unintentionally or wilfully, is it conducive to the success of your business or the welfare of the industry?

The Retail Delivery Problem

Insulated container already used with success but question arises whether cost will make it practicable

The delivery of fresh fish from the store of the retail dealer to the home of the consumer during warm weather without destroying or deteriorating the appearance and palatability of the commodity is a problem that has not yet been satisfactorily solved in Canada. Unless there is some specific case of which we have no information, none of the retail fish stores in the country make any pretence of preserving fish during delivery and there is no doubt that consumption has been checked on this account and much valuable business lost. With the hope of starting some movement to rectify this very serious deficiency the *Canadian Fisherman* herewith reproduces a paper read some time ago by Miss N. E. Pennington of New York before the American Society for Refrigerating Engineers on the subject of small insulated containers. It is not suggested that the use of these containers would be economically feasible in the fish business but the paper is interesting and may inspire someone to contrive an equally effective and more economic means of solving the problem. (Ed. of C. F.)

* * *

The passage of refrigerated perishables from packing house to consumer has frequently been complicated by our inability to maintain refrigeration when the unit package reached the retail size. The problem of refrigeration for the carload quantity, or large shipment, to the middle man has been fairly well solved; not so the maintenance of refrigeration in the small package, such as required by the average consumer, nor in the small package to be shipped by express or motor truck.

The distribution of food from producer to consumer appears to grow more and more complicated with the growth of cities and their broad environs now devoted to residential purposes where formerly the small dairyman, orchardist or truck grower produced his crops and then sold them in the nearby city markets. Now the population of these suburbs is provided with supplies shipped by express or motor from the wholesale market of the city. Such shipments are usually less than carloads and refrigeration ordinarily ends with the breaking of the carload unit. Speed must take the place of refrigeration if deterioration is to be avoided—a most undesirable exchange from the viewpoint of food conservation. While the routine for the refrigeration of the carload unit has been laid down, it is not always possible to ship perishables in carload lots. Neither is it always feasible for railroads to provide less-than-carload refrigerator service.

To meet such a situation, shippers have tried various expedients varying from the packing of ice in contact with the commodity, or around the commodity in a double-walled container, to wrapping in many folds of newspaper. Occasionally some shipper has been driven to the use of a package with more or less insulation in its wells, but such packages have ordinarily been expensive to build, bulky and heavy to handle.

If the need for such packages is to be filled—and undoubtedly the need exists—they must be, according to commercial standards, strong, light, thermally efficient, durable and not more in cost than the traffic will bear.

During the past two years an endeavor has been made to provide such packages, using balsa as a combination construction and insulating material. A sufficient diversity of types of box construction has been studied and a sufficient variety of commodities has been shipped to provide information of interest not only to the distributor of foods, but to the economist as well, since it opens possibilities for the distribution of perishables in smaller units than have heretofore been commercially practicable.

For example, the shipment to a select and high-class trade of such products as new laid eggs and fresh butter direct from the hennery or the creamery can be continued throughout the entire year, since the maintenance of refrigeration in summer time insures protection against freezing in winter. Much of this trade can move by parcel post.

Accordingly, a box especially adapted to such shipments has been made. Its walls are one inch thick, and the bottom and lid one and a half inches. The corners are of tongue and groove construction and both top and bottom plug in one-half inch. Because balsa is resilient, this plug fits into the body of the box like a cork into a bottle. It is the only way found, so far, to make an efficient lid. One of the great troubles with small insulated packages has been leaky lids—felt strips, rubber gaskets and screw clamps all fail. The plug insert of this slightly compressible wood gives efficiency. Of course balsa must rest against balsa, else the full benefit of the resiliency is not obtained. The box chambered to take four dozen eggs in cartons of standard size or twelve pounds of butter in one-pound cartons is 6 7-8 inches high by 8 5-8 inches wide by 12 1-8 inches long inside; 10 1-8 inches high by 10 5-8 inches wide by 14 inches long outside, and weighs approximately 4 lb. and 7 oz. To protect the surface of the box in transit, as well as to facilitate the matter of outgoing and return address, a canvas cover is provided with an open pocket for an address card.

Fish Handled Successfully

Such boxes are proving satisfactory for butter, eggs, dressed poultry and fresh fish. Butter, well hardened, is safe for at least 48 hours; dressed poultry, chilled to below 35° F., to 36 hours, and fresh fish, if dry packed, 24 to 36 hours, all under summer temperatures. Naturally, all sorts of commodities from cut flowers to medicinal sera are sporadically shipped in such a package.

For shipment by express a stronger package is necessary. Therefore, the box is surfaced on the outside with a light weight metal sheet and, sometimes, lined with galvanized iron. The balsa panels fitting into the metal sheathing are, like the parcel post box, tight at the corners and the top and bottom ordinarily involve the plug or some modification of that form of construction. These boxes are carrying such commodities as butter in 80-pound lots from a distributing warehouse to retail stores more than one hundred miles distant and bacon in 50-pound lots from a packing house to retail branches a night's haul away.

If motor truck or wagon deliveries are contemplated and the thermal strain is not very great, as in the case of pressed yeast, a box of balsa approximately one inch thick is surfaced with plywood. This makes a very desirable package for general use where protection from heat is desired and the handling is not very rough.

It is but seldom that such packages as have been discussed require more than two inches of balsa in their walls. Ordinarily, the continuance of temperatures below 32° F. is not required; the freezing or hard chilling of commodities being simply a means of providing reserve refrigeration to be drawn upon during the calculated transit period. A notable exception exists in ice cream where 14° to 18° F. is the upper safety and where the initial temperature may be zero

or below. Such a difference as exists between the temperatures inside and outside these packages necessitates unusual precautions to check the heat flow. The amount of insulation required for the work to be done must be carefully adjusted, joints must be absolutely tight and every precaution possible must be taken to eliminate heat leakage through the lid.

It may not be amiss to call attention in passing to the phenomenal growth of the ice cream industry. The Bureau of Markets estimated a production of about 230,000,000 gallons in 1919, while in 1909 but 80,000,000 gallons were produced. While the freezing of the cream mixture and its subsequent hardening are accomplished by mechanical refrigeration, ice and salt have been depended upon for protection during distribution. If the total output of ice cream be compared with the total amount of ice and salt used, it will be found that each five gallons of cream represents, on an average, 150 pounds of ice and salt mixture, generally at a cost of over 10 cents per gallon. Even more objectionable than the visible expense of the ice and salt is the deterioration of equipment which it causes and the annoyance of handling it.

Ice Cream Distribution

A study of ice cream distribution cooperatively with the industry indicates that it is commercially possible to dry pack and gradually to eliminate ice and salt from the entire routine.

Starting with high-class house delivery trade, which is as rapidly as possible being shifted from the manufacturer to the retail dealer, it has been found that balsa boxes with walls two inches thick will hold four quarts of brick ice cream, hardened to approximately zero, in a firm condition for six hours. The ordinary tub with ice and salt is usually packed for a life of four to five hours. A box of one quart size will keep the cream about four hours. While it is advantageous to chill the boxes before filling, the above statements are made not the basis of boxes not chilled.

While the auto truck is playing a large part in ice cream delivery, express service is still depended upon for long hauls. The big, heavy, sloppy ice cream tub is a very undesirable package to mix with bales of silk, fine furniture and milliners' packages. Neither is the ice and salt to be depended upon for long hauls. A tub insulated with three inches of balsa will answer for a short haul without additional protection for the cream. However, when a shipping period of 24 hours is required, experience shows that about six inches of insulator is necessary, which makes the package too bulky to be commercially desirable. Therefore, a sealed vessel containing a solution of compounds freezing at selected temperatures and with as great a latent heat of fusion as possible is inserted into the tub with the can of ice cream. With such a refrigerating pad and 3 inches of balsa,, cream can easily be held for 24 hours. The usual five-gallon ice cream tub packed with ice and salt weighs about 150 pounds. The balsa tub, loaded, weighs about 100 pounds.

One of the problems of the ice cream industry is the keeping of the cream in the shop of the retailer. Ordinarily, this is accomplished by placing the cans of cream in a box —or "cabinet," as it is called—and packing ice and salt around them. Repacking must be done every 24 hours at least. The actual expense for material and labor is great and from every viewpoint the process in undesirable. Cabinets are now being made of balsa, suitably sheathed for protection against surface wear, from which ice cream can be served for 24 hours under such conditions as ordinarily prevail in ice cream parlors and at soda fountains.

The great variation in the environment and the requirements of the retail distribution of ice cream make the adaptation of such a container a matter of careful experimentation and exact observations. While, for a 24-hour service, balsa alone can furnish the protection desired, there are various practical reasons for the use of refrigerating pads. A balance should be struck between the economical thickness of wall and the practical amount of heat absorbent, just as one strikes a balance between thickness of insulation and the refrigeration to be supplied to any protected space. Ordinarily, four-inch wall and approximately 60 pounds of the frozen liquid of the desired melting point are required for a cabinet holding four cans of five gallons each.

HEAVY LOSS IN WEIGHT IN CURING OF COD-FISH

The loss in weight, dressing and curing codfish ranges from 50 to 65 per cent. according to the season of the year and extent of the salting and drying. The loss is greater in the case of cod than any other fish, generally large fish decrease more than small ones, and large shore fish more than that taken on the Banks. Four hundred and forty pounds of round fish and 290 pounds of fish from the knife, and 210 from the water horse are generally required to make a quintal dry (112 pounds). Fresh split cod ready for curing contains abut 80 per cent. of water and one and a quarter per cent of salt.

A large percentage of this water is drawn out by salting, some more by drying, and a smaller quantity by compression, the latter process also removing a small quantity of salt in the form of pickle. The resulting product when prepared for market in the shape of dried fish contains 51 per cent of water and 19½ per cent of salt.

The stock fish of Norway which is the hardest kind of dried cod contains 17 per cent. only of water and one and a half per cent. of salt. One hundred pounds of codfish as they come from the water will weight 66.9 pounds, dressed ready for salting, of which 53 pounds represent water and one pound weight of natural salt.

The process of curing for the market adds 6.2 pounds of salt, and removes 34.1 pounds of water, of which 31.1 pounds are removed by salting and 3 pounds by pressing and drying. This results in 38.8 pounds of dry salted fish, of which 18.9 pounds represent water and 7.2 pounds salt. By continuing the process and removing more water by drying, the keeping qualities of the fish are improved, but the quality of the flavor decreases with the weight and this is not desirable except the fish is destined for warm climates where it may be held for a long time.

To make a quintal of soft-cured fish such as is used in the American market requires 193 pounds split and 288 pounds round, and for export to Brazil requires 350 pounds split.— Trade Review

EASY

The conjurer was producing eggs from a top hat. He addressed a boy in the front row.

"Your mother can't get eggs without hens, can she?" he asked.

"Oh, yes," said the boy.

"How's that?" asked the conjurer.

"She keeps ducks," answered the boy.—Tit Bits.

JUST A WORD OR TWO

She : Just think of it! A few words mumbled by the minister and the people are married.

He : Yes, and, by George, a few words mumbled by a sleeping husband and people are divorced.—Passin Show.

Many Dependent Upon Fisheries

Estimated that one in every twenty traces his livleiihood to the humble fish of the sea —Can support many more

exists here for about $50,000 worth of second-grade salmon annually.

Approximately one hundred thousand people are engaged in the catching and processing of fish in Canada, and at least fifty thousand more are occupied in fish merchandizing. It is difficult to say how many more receive their means of livelihood indirectly from the industry, but it would not be an exaggeration to place the total, wholly or partly dependent on the fisheries for a living, at 400,000. On the basis of an eight million population this would mean that one in every twenty receives his or her maintenance from the industry — that is, five per cent of our total population.

This fact is quite astonshing in itself, but when it is considered that our fishery resources have only been lightly scratched, the tremendous possibilities of the situation are obvious. Could we but find an outlet for all the fish we may produce, there would be room for the employment of many times that number and millions might trace their livelihood to the humble fish.

Of the one hundred thousand engaged in primary and secondary fishery operations, fully forty-five thousand are in Nova Scotia, and close to thirty thousand in British Columbia. While the Pacific province leads in the value of production, the industry is more vital to the province of Nova Scotia, and seems to present greater possibilities. The salmon has been the mainstay of the western province, because of its wonderful food qualities and the high price it commands in the markets of the world. In the matter of quantity caught the humble cod of the Atlantic outstrips the British Columbia salmon which last year was also exceeded by the modest herring. Nova Scotia and British Columbia are the rivals for supremacy, but each of the other provinces contributes to the output of commercial fishes. Generally speaking, our interior waters contribute about one-tenth of the total output. In this connection it is of interest to point out that within our Dominion we have one-half the fresh water of the globe, so the possibilities of fresh-water fishing have not been reached by any means. The progress of man is extending northward and today we are securing supplies of whitefish, trout, etc., from the basin of the Mackenzie River. As transportation develops copious supplies farther northward will be accessible.

Another way of fixing the value of the industry is the capital invested. It is estimated between fifty and sixty millions, of which one half is in primary operations — that is, vessels, nets and fishing gear — and the balance is invested in canning and curing establishments ashore. There is an erroneous impression in certain sections that our fishing industry is controlled by foreign capital. Statistics furnish no justification for this view, although it would not be a bad thing if we could induce some millions of outside capital to contribute to the boosting of the industry. In 1920 there were eighty-six fish canning and curing concerns in Canada organized as joint stock companies, Bonds, stocks and other securities of these aggregated $25,931,681, of which $15,169,305 was held in Canada; $7,641,641 in the United States and $3,120,635 in Great Britain.

To secure some idea of the various methods employed in fishing and the comparative importance of the different branches, the following is of interest: in 1919, 35,905 sail, row and gasoline boats were engaged, valued at $7,011,120. Sailing and gasoline vessels numbering 1,091 were valued at $5,243,795, and steam vessels, numbering 172 were valued at $1,449,365. Ten steam trawlers were in service, valued at $1,075,000. The first item — sail, row and gasoline boats — represents the equipment of the inshore fisheries, while the others are equipment for offshore. The former employed 55,410 men, while only 8,708 fished offshore. So it will be seen that our fishing inshore is the most valuable. In fact nearly three-puarters of our fish taken in Atlantic waters is secured within twelve miles of land.

CANADA MAY DEVELOP FISH TRADE WITH JAMAICA.

G.R.Stevens, Canadian Trade Commissioner in Jamaica, recently wrote the following about the demand for fish there:

Canned fish is a comparatively minor foodstuff in Jamaica. Dried fish is a staple of diet, and when the mass of the population can afford to indulge their tastes for canned foods, they ordinarily will choose meats, fruits or vegetables in preference to fish. However, Canada's share of the present imports of canned fish is only 10 per cent, as compared with 50 per cent from the United Kingdom and 40 per cent from the United States. It is questionable whether Canadian canned fish can cut into the United Kingdom sales to any extent; the British prices are low, their quality is excellent, and a large proportion of the British fish consists of specialties, such as bloaters, anchovies, skippers, and kindred fishstuffs in which Canada is not a competitor. In regard to United States supplies, the chief item of import is salmon, and the very salmon which British Columbia has in abundance, the second grade "chum."

The reason for the American preponderance in this product lies in: (1) Low prices. (The present selling prices represent large sacrifices upon imported costs.) (2) The present stocks were largely bought during the boom years, not from the canners, who were too busy to consider minor markets, but from brokers. As these brokers were largely from New York, American fish was furnished. Excepting British canners, there has been little effort by canned fish manufacturers to obtain permanent representation in Jamaica. (3) The two or three houses at present distributing canned salmon in quantity have American instead of Canadian connections.

Should Jamaica be included in Vancouver route as proposed, it would pay the British Columbia canners to give some attention to this colony, as a market

The Pollock is Much Maligned

Atlantic variety caught in great abundance —A splendid food but public must be educated that name is not everything

The pollock, captured extensively by our deep sea or bank fishermen, along with cod and haddock, is, for unaccountable reasons, not popular as a fresh commodity. It is closely allied to the true cod, is of fine flavor, and may be readily and cheaply procured in our Canadian markets, especially during the months of June, July, August and September. One authority, endeavoring to locate a reason for the apparent deep-rooted prejudice, considers it due largely to the fact that the pollock destroys better fishes. It is true that the pollock is very destructive to the young cod, surrounding the schools and driving the fish to the surface where they fall a prey to the voracious pollocks attacking below and hundreds of sea gulls which, with astonishing voracity and precision, pounce upon them from above. But this cannibalistic tendency is not confined to the pollock alone. It is a trait of many of our sea fishes.

Pollock, sometimes known as the coal fish or green cod, is common northward on both shores of the Atlantic. It is caught abundantly on our North Atlantic banks, and also along our Canadian coast where inshore fishermen capture it along with cod and haddock. Frequently the pollock come close in shore and become ensnared in nets fixed for herring and other fishes. It ranges as far south as France on the European coast and Cape Cod, or even New York on the American side.

It reaches a length of more than three feet and a weight of twenty-five pounds or more. It is exceedingly productive. According to an eminent authority a fish three feet three and a half inches long, weighing twenty-three and a half pounds, contained approximately 4,030,000 eggs, and one thirteen pounds produced about 2,570,000 eggs. The eggs are, of course, very small, and are produced in such tremendous quantities in order to provide for enormous destruction by predatory fishes, and guarantee adequate continuation of the species. It obviously is not the intention of nature that all the eggs should mature. The eggs are buoyant, floating at the surface where they hatch in five or six days.

The pollock is darker than the cod and more lustrous and the lower jaw is more extended, with a smaller barbel at the tip. There is a good deal of similarity between the true pollock and the whiting, so common on the British coast. Two closely related species of pollock are found in Pacific waters. The Alaska pollock is found in Behring Sea and as far south as Sitka. It swims near the surface and furnishes the main item in the diet of the fur seal. In the waters of the Canadian Pacific is found the wall-eyed pollock. It is quite abundant about Puget Sound, but is not fished commercially.

As a game fish the true pollock or Atlantic pollock has not been fully appreciated. In some localities it is a voracious fish, taking the hook freely and fighting viciously. In Massachusetts Bay great numbers are caught with a surface bait, but larger fish must be sought at the bottom.

Those who eat pollock fresh esteem it highly. The limited experience the writer has had convinces him that the general antipathy to the fresh pollock is largely associated with the name and not with its inherent qualities. Some months ago pollock were brought into a certain Canadian city and offered for sale. The demand was discouragingly small, but a few days later the resourceful dealer offered the same fish for sale as "Boston bluefish." On the first occasion the price was six cents and subsequently as "bluefish" it was offered for sixteen cents. The "bluefish" was extremely popular and the stock was soon sold out. The writer does not intend to justify the business morality of the deception, but it illustrates clearly that the aversion to pollock is not a sensible one. Incidentally it proves once again that Barnum had the right conception of human nature. Any method used for preparing cod for the table may be employed with the pollock with equally good results.

The official returns for the year 1919 disclose that of the total pollock catch of 128,023 cwts. only 16,499 cwts. were used fresh. The value of the total catch was $428,469, and the quantity consumed fresh $55,808. The great bulk of the fish was dried or green salted. Eighty-five thousand cwts. were thus treated, valued at considerably more than half a million dollars.

FISH FROZE IN THE LIFT.

The steam trawler, Sir John French, Captain M.Colp, arrived in Halifax a few months ago from the Banks, well coated with ice and had encountered very heavy weather on the Banks and running to port. She had a catch of eighty thousand pounds. The crew of this fishing craft reported that fish caught in their trawls were frozen stiff in the few seconds required to haul them from the surface aboard the vessel. Therefore it was a catch of frozen fish that she brought into port. It does not take long to haul a fish from the surface to the deck of the trawler and the fact that the fish could be frozen in this short time is some indication of the severe weather encountered on the fishing grounds.

The Sir John French, which was out about a week, encountered continuous bad weather with the result that she returned to port with a catch of about eighty thousand pounds. Running to port she also met heavy weather and on arrival was really an iceberg and presented a sight similar to that of the Lemberg, which arrived a few days earlier thickly coated from stem to stern with ice. The Sir John French was salt fishing last fall and her recent trip was the first she had made since before Christmas, having been laid up for a month.

Resourceful Irishman gives this way to weigh without scales: "To weigh a pig all ye have to do is to lay a plank across a sawhorse, place a big stone on one end of the plank and the pig on the other, then shift the plank until the two things balance. Then ye guess the weight of the stone and ye have the weight of the pig."

Something About Haddock Fishery

Fish rapidly developing in popularity and is served to the public in variety of palatable ways

From various traditions we learn that the European fishermen were lured to the great fishing banks of the western Atlantic a century before Columbus discovered America. The predominating fishery of these early days was for cod, but it was not long before the haddock began to be caught in far greater numbers. Today thousands and thousands of people are engaged ni catching this fish. It has grown so in favor with the public as a food that now it is one of the most important of deep-sea edibles.

The haddock is a quiet fish, with very little life in it when taken from the bottom. To catch haddock the fisherman employs a hand-line equipped with two or three hooks baited with herring, squid or capelin, or sometimes clams with a lead sinker to weigh the line down. A fisherman is adept in manipulating these lines and may operate several at a time from his dory. Haddock when caught by this method is considered by many as superior even to the cod. A long-line some 2,000 feet in length, commonly called a trawl, is used by the deep sea fishermen with perhaps as many as 800 hooks. But in recent years steam trawlers have come into use on this side of the Atlantic and this has resulted in a tremendous increase in the take of haddock. The fishing apparatus of a steam trawler is a huge bag of heavy netting shaped like a cone. This bag is drawn slowly over the bed of the sea and great quantities of bottom-dwelling fishes are trapped in it.

During the months of April, May, June and the last months of the year the haddock is very abundant off our Atlantic coast and it is then that the largest catches are made. The haddock is seldom seen at the surface, for it is a bottom feeder. Although a bottom-dweller, the eggs, being lighter than the sea-water, rise to the surface and are scattered over a vast expanse of the sea during the spawning season which is from April to June on our coasts.

Move in Large Schools

Haddock swim from place to place in large dense schools. They usually weigh from four to five pounds each and are distinguished by lateral black lines on the body and a dark spot on either side just behind the gills. This peculiar spotting has led to the belief that was common in different countries that the haddock is the fish from whose mouth St. Peter, at the command of Christ, took the tribute-money, these spots being supposed to be the marks made by the apostle's thumb and finger as he held it.

To many, haddock is better known as "finnan haddie," one of the most delectable fish prepared in Canada. The name finnan haddie originates, according to legend, from the quaint little fishing village of Findon, Scotland. This village was swept by fire at one time and a single fish house containing the season's catch of haddock escaped damage, although it was enveloped in dense smoke. The villagers were greatly surprised to find that the smoke had given an added flavor to the haddock. This resulted in the new process which took its name from the village.

Haddock are also cut into fillets. The fillets have the skin and bone removed and are necessarily higher in price as there is no waste, but at the same time they are comparatively more nutritive as the food is concentrated.

There has been great variation in the abundance of the haddock according to Dr. Jordan. Some years it abounds while in others it is scarce, but scientists have failed to discover the cause of this. Nevertheless the supply exceeds by far the demand. This is not due to any inferiority of the fish, but because most consumers have not been familiar with its merits of quality and price.

In the matter of quantity taken by Canadians, haddock gives place only to cod, salmon, herring and halibut, while the value of the catch is exceeded by salmon, cod, lobsters, halibut and herring in the order mentioned. In 1919, 564,574 cwts. of haddock were landed, having a first-hand value of $1,363,147 and a marketed value of $2,048,745. The greatest quantity was used fresh, but a large quantity was smoked, dried and canned and went into local and foreign consumption.

CARE IN ICING NECESSARY

Says the house organ of the Atlantic Coast Fisheries:

This is the time when shippers should give the utmost attention to packing. Use plenty of ice, and keep the temperature of the fish as low as possible from the moment it is caught. Proper handling means better prices. Don't blame the commission house for making low returns if your goods arrive in poor condition. This paper has for a long time preached the doctrine of heavy icing in warm weather, and is pleased to note that its advice has been generally followed, with excellent results to its shippers.

As a concrete example of the effects of keeping stock at a proper temperature, the following should be noted:

On Monday, May 8th, our Experimental Department barrelled two lots of haddock weighing 250 pounds each. One barrel was sent to the cooling room of our refrigerating plant and was held at a temperature of 31 degrees above zero. The other barrel was iced but not re-iced, and was held in Chesebro Bros. & Robbins annex. On May 11th, both packages were opened, and the report of the Examining Committee was as follows:

1 — The barrel of haddock which was sent to the cooling room of the refrigerating plant was found to have kept in excellent condition after three full days under a temperature of 31 degrees above zero. These fish would have kept in practically the same condition

2 — The fish which were iced and placed in our annex, and not touched till today were found to have deteriorated considerably, and while not entirely spoiled were unfit for purposes.

News Notes from Far and Near

HERRING FAILURE BLAMED ON WAR

The failure of the herrings shoals to make their regular appearance in the North Sea has been the source of much speculation. So serious is the situation in such places as Lowestoft that seaplanes have been sent out to locate the tardy shoals, and a special boat has been sent from Lowestoft to study conditions and make a report. The Manchester Guardian attributes to David Young of Lowestoft, who has ad forty-five years' experience in the industry, the theory that during the war the spawning grounds were affected by the mine fields and that when explosions occurred huge numbers of potential herring were slaughtered. The herring takes four to five years to mature, and if the spawn was disturbed during the war the evil results would be noticeable just now.

Another reason advanced is the abnormally calm weather. The fishing grounds require winds just as much as the ground ashore, and the herring feels the warm weather and keeps to the bottom. Only those of poor or what is known in the trade as of an 'oily' quality have come to the top. When the herring keeps to the bottom it becomes fat and lazy and indisposed to the necessary exercise involved in coming to the surface.

FISH EGGS SENT TO SWITZERLAND

Advice comes from Switzerland that shipments of fish eggs to the Swiss Federal Department of Interior, Berne, Switzerland, were received in excellent condition. The shipments consisted of 50,000 lake trout eggs from Charlevoix, Michigan, and 50,000 rainbow trout eggs from Wytheville, Virginia. Each lot of eggs was sent to Washington, D.C., there packed in specially constructed cases and forwarded to destination.

NEWFOUNDLANDERS INCLUDED

A recent amendment to the fish bounty regulations makes no change in the method of collecting or distributing claims thereunder. The fisheries department at Ottawa advises that in recent years a number of Newfoundland fishermen have been coming over to Canada and have been employed in fishing on Canadian vessels. Indeed in numerous cases it would be impossible to send the fishing vessels to sea with full crews if these fishermen were not employed. As they are British subjects and fulfill all the general requirements for the bounty there seemed no good reason why they should not share in it. Hence the amendment to the regulations. Previous regulations restricted the bounty to resident Canadian fishermen.

RACE COMMITTEE WINS VERDICT

An award of one dollar each was made in the District court at Gloucester (Mass.) recently to twelve members of the American Fishermen's Race Committee in seperate suits against Mayor Wheeler of Gloucester for insinuating dishonest or unsportsmanlike practices in equipping the American contender last year in the international race.

STANDARDIZED BOXES

The Lake Erie Fishermen's Association has recommended the standardization of boxes used for carrying fish by express. It is advised that eighty pounds of fish should be put in containers of less than 5,400 cubic inches and ninety pounds when the contents is greater than this. Now that the co-operative selling association among the Erie fishermen is functioning it is likely that box standardization will be general.

RUSTLESS PLATES

Experiments are being conducted at Swansea, England, having for their object the substitution of nickel for tin, with which tinplates are coated. A company has been formed to commercialize the invention. The production of rustless plate is aimed at.

FIRST TRAWLER TO SEINE

For the first time a steam trawler is being use this season in the mackerel fishery. The steamer Surf went from Boston to the south to meet the schools. She was equipped with seine and boat.

INCENDIARY FIRES

Fire, believed to have been of incendiary origin, on May 18th destroyed fish houses at Pembroke, Yarmouth Co., N. S., belonging to Leslie Bain and George and Frank Cushing. Boats close by were saturated with oil but were saved. Another fish house near by had been broken into and soaked with gasoline.

VANCOUVER ISLAND RECORD

Vancouver Island's fishing fleet caught sea products to the value of $2,700,000 during 1921, which is an excellent record and demonstrates that the people of that section are making more practical use of the wonderful resource than some other parts of the counutry.

ASK FOR RECEIVORSHIP

A petition was filed last month at Boston in the U. S. district court asking for a receivorship for the Gorton Pew Company of Gloucester, Mass. The complainant, Frank W. McMulkin of New Jersey, alleges that he has a claim of $5,304 for which he has not received payment. Other allegations are made respecting the financial position of the concern.

EUROPEAN FLEETS LARGER

European fleets coming this season to fish cod on the North Atlantic banks will be larger than for any year since the war. The French fleet will number a hundred sailing craft and thirty or more steam trawlers. Prior to 1914, however, the French sent an average of 225 sailing vessels while a fleet outfitted at St. Pierre averaged 43 sail. The Portuguese fleet will likely number sixty sail.

COD FISHERIES OF EUROPE

Reports from the north of Norway state that such great masses of codfish as are now assembled off the Finmarken coats, have not been found there during the past thirty-five years. Fishermen in Iceland are also reported to be doing remarkably well. On the other hand, reports indicate that codfishing around the British coast was never so bad, and up to date the fishery has been an absolute failure.

HENRY FORD GOES TO BANKS

The schooner *Henry Ford,* built as a prospective United States challenger for the international fisherman's cup, sailed on her first fishing trip on June 2, Captain Clason Morrissey, her owner and skipper, has been assured by the Nova Scotia trustees of the cup that his vessel would not lose her standing as a challenger because of her late start to the banks. The Ford went first to Sydney for bait and boats.

FOUNDERS NEAR PORT

The fishing schooner *Loren B. Snow* of Yarmouth, N.S. foundered ten miles off Lurcher Lightship in the Bay of Fundy on June 1, while homeward bound with 20,000 pounds of fish. Captain LeBlanc and his crew took to the dories and rowed ashore in a dense fog.

CRAB IMPORTATIONS CRABBED

Uncle Sam imported canned crabs from Japan in 1920 to the value of $2,013,617. They are much bigger than the crabs taken in Atlantic waters, weighing from eight to thirty-two pounds as against one to four pounds. A twenty-six per cent duty against crab meat is causing quite a stir in the States. The domestic supply from Alaska is inadequate to meet the demand, and the proposed Fordney duty would boost the Japanese commodity to $34 per case.

VERMIN ATTACK FISH

The Berry Castle recently returned to Yarmouth, England, reporting all her fish covered with lice the size of cockroaches. The fare was ruined and much time was lost ridding the deck of the vermin. The menace is being investigated.

MUST USE SALT ONLY ONCE

An order-in-council recently passed at Ottawa makes it necessary that all fish to which the Fish inspection Act applies shall be cured and packed with fresh clean salt. Salt which had already been used in curing fish of any kind must not be used again. The government was moved to take this action because of reports from certain parts of the coast that those who cure and pack herring for sale are in the habit of using salt which had previously been used for curing cod on vessels engaged in the bank fishery.

MAY PUT STEAMER ON

In certain quarters there is believed to be a possibility of the government's placing one of its steamers on the run from southwest Nova Scotia to points in New England. Whether a steamer would pay there it is difficult to say but the service would certainly be of immense value to fishermen along the shore.

CANADIAN TRAWLER SEINING MACKEREL

Canadian vessels are out seining mackerel this year. Heretofore our fishermen have been content to trust to luck that the fish will come inshore and they were satisfied to let the American seining fleet get the booty if they steered offshore. The schooner Helen M. Coolen and the steamer trawler Lemberg have been equipped. The government boats "Arleux" and "Arras" are directing the fishermen to the schools.

NEWFOUNDLAND LOSING MARKET

According to statistics compiled by the Trade Review of Newfoundland that country is fast losing ground in the Brazil market. In 1918 she supplied eighty-four percent. of the codfish imported and in 1921 she put in less than thirty percent. of the requirements. The government is cognizant of the situation and is being urged to send exhibits of fish and other products of the island to the all-Brazilian exhibition which opens in Rio de Janeiro in September.

SPANISH FIRM BUYS PLANT

It is reported that the firm of Lind and Couto, Oporto, Spain, has purchased all the fish establishments of Robert Moulton, Ltd., west coast of Newfoundland.

LIVE FISH TO CONSUMER

Chas. F. Mischler of Sandusky, Ohio, is said to have invented a container which makes it possible to deliver live fish to all parts of the country. He is keeping the secret to himself until he has secured patents.

BOYS FISH PEARLS

At London, Ontario recently, two boys diving in the Thames secured two splendid fresh-water pearls. A local jeweller valued one at $500 and the other at $300. The find has caused a bit of excitement.

CREW SHARES $575

The Digby schooner, Clarke L. Corkum, Captain Ansell Snow, has stocked $25,500 since March 24 in fresh fishing. The crew shared $575.62 for the two months.

FISHERIES EXHIBITION

Arrangements are well advanced for a Deep Sea Fishing Exhibition to be held in the Agricultural Hall, London, next month, and through the secretary of the Canadian Fisheries Association has come an invitation to Canadian exporters to exhibit there. In addition to the display of goods there will be a series of conferences on topics of current interest which will include the importation of frozen salmon as an adjunct to the nation's food supply.

COMMISSIONER O'MALLEY

Henry O'Malley, who for some years has been head of the fish culture branch of the fisheries service at Washington, D.C. has been appointed commissioner of fisheries in succession to Dr. H. M. Smith who resigned last fall.

3,000 QUINTALS IN TWO BAITINGS

The Marion Belle Wolfe, Captain John Thornhill of LaHave, N.S., is said to have taken 3,000 quintals of fish from two baitings, recently.

LOBSTER FISHERIES FIRE

All the supplies for the lobster fishermen along the Newfoundland coast for two hundred miles, and fifty-eight wooden buildings were destroyed by fire which swept Woody Point, Bonne Bay, early in June.

CONTROVERSY WITH RUSSIA

Great Britain and Russia are involved in a fisheries dispute which may vitiate recent efforts to conciliate differences between the two powers. In May 1921 a soviet decree fixed a twelve mile limit to territorial waters instead of three which is generally fixed among nations. Fishing by foreign trawlers within twelve miles was forbidden, and on the northern Russian coast British trawlers have been seized. International law gives no definite principles exactly defining territorial rights of a coast, and each side interprets its right differently. In April of this year Britain handed a note to Russia threatening to send a warship to recover the seized trawlers and protect British interests. More recent developments would indicate that the issue is still being discussed diplomatically.

INTERPRETATIVE DANCING.

"What is the name of this dance?"

"According to the program, it is called "The Penitent."

"I see. The lady is supposed to be repenting in cheesecloth and sashes."—New York Sun.

"Finest Food Resource of Empire"

The Fishing News of Aberdeen, Scotland, in a recent issue reviews the fisheries of Canada, and the following extract is of interest:

Canada's Fisheries Sound

In her fisheries, comprising the waters off both her coasts, and the vast aggregate area of inland lakes, rivers, and streams, Canada possesses a prolific and permanent source of wealth and one of the greatest food resources of the British Empire. No resource has greater or more lasting value; none can be exploited so easily or so profitably; and none merits greater attention at the hands of the Canadian people. It is perfectly clear, however, that all that might be done to increase the development of this almost limitless resource is not being undertaken, and this has to be explained to account for what is undeniably a decline in the fish catch of 1921 when compared with previous years. With the exception of the salmon packers of British Columbia, fish producers are making little effort to establish themselves on foreign markets, relying on chance orders, and very often losing out to competitors. On the other hand the Canadian public is consuming a great deal of foreign fish which more aggressive foreign packers have managed to insert in the Canadian market.

The crying need of Canada's fish industry at the present time is for an aggressive campaign abroad to develop wider and newer export markets together with the encouragement of greater home consumption of the domestic product, to the exclusion of foreign goods. There is no doubt but that this alone is needed to rectify a situation brought about by a sudden disorganisation of the industry resulting from the sudden cessation of war demand together with the general upheaval which has existed in foreign trade relations. The situation is purely temporary; the industry is sound and will resume its progress in adding yearly increments to this valuable resource of Canadian revenue.

Of equal or greater importance to the development of markets is the need for wise and sound lesislation for the conservation of the fish in Canadian waters, their adequate protection during the breeding seasons and the retention of their spawning grounds and the channels of access to them.

The Herring Situation in Alaska

A.J. Buhtz, head of the Western Cooperage Company, is in an exceptionally good position to take a broad, impartial view of the Alaska herring situation, as his house furnishes a large part of the cooperage used in packing this commodity, and he keeps closely in touch with both packing and marketing conditions. Sizing up the outlook for the coming year, he says:

"The past season has been one of prosperity for the Alaska herring industry, and has brought some growth on a substantial basis; and from all indications there will be a further growth next season. The industry, however, is actually in a critical position, and market conditions as well as the technique of packing should be fully understood by all who think of going into the business. In view of the uncertainty of the market, and the disposition of many packers to ruch into the business, there is grave danger that the collapse of 1918 may be repeated. That year over 100,000 barrels were packed, and the result was that most of the packers went broke, and most of the pack was sold below cost, a great deal of it being unsaleable at any price. From the reckless attitude taken by many packers, I am afraid the same thing will happen next year.

"Of course, if the tariff bill, bearing the rate of duty asked by the herring packers, can be made effective before tthe packing season, it will be possible to go ahead with a little more confidence; but the tariff will by no means eliminate competition. It will merely give the Alaska packer something like an even break, and he will have to manage his business carefully and keep his costs down if he is to make anything. The incompetent or careless packer will have little more chance with the tariff than without it.

"But there is still much uncertainty about the tariff bill, and it is not safe to count on its aid. If the Scotch herring fishery should have another bad year, there might be a market for an increased herring output even without the tariff; but what ground have we for expecting two bad years in succession inScotland. With conditions there anything like normal, Scotch herring for the American market can be packed more cheaply than Alaska herring, and the transatlantic freight rate is the lowest on record. That would mean a flooding of the market with imported goods in the midst of the Alaska packing season, with a resulting drop in prices; and money invested in the Alaska operations would be practically lost.

"Buyers have said that there is an assured market for a limited quantity of Alaska herring of the best quality, regardless of competition. That is probably true, but with an abundance of good imported herring available the demand would not be large—that is, at a price that would give the Alacka packer any return. And if the pack is increased over that of last season, it goes without saying that prices will be forced down to a competitive basis with imported goods.

We are all vitally interested in the Alaska herring industry. We want to see it grow—it means more business for us. But its growth must be on a sound basis and with due regard for the actual conditions, or it will mean a loss to everybody connected with it."—Pacific Fisherman.

WELSH TINPLATE GAINING GROUND

Additional mills are to be started in the Welsh tinplate industry.

Those at the Western Tinplate Works, Llanelly, resume recently, after being idle for almost a year in consequence of the slump. The prospects are now bright, and some of the foreign works, notably those in Norway have shut down owing to Welsh competition.

Welsh tinplate manufacturers are sending their products to 23 different countries, and have beaten the United States out of the European market.

Little Laughs

A Waltham in a gold-filled case was removed from a codfish at Howard Hodgkins Company's wharf at Rockport yesterday afternoon.

After dressing fish, the men were cleaning up when one of them saw something shining. On investigation, they found it was a watch. It was in the poke of a codfish, and in dressing the fish the poke was cut sufficiently to have the gold case show.

This is the second time that a timepiece has been found in a fish landed at this establishment within a year. The other was a round alarm clock which was taken from a 60-pound cod some time ago.—origin witheld to protect papers reputation.

Mrs Harry Taup of Detroit is sueing for divorce because her husband doesn't like fish. He came home recently, she explained in court the other day, and finding she had fish for dinner, poured kerosene over it. This she contends constitutes cruelty ti justify a separation. If the order is what he objected to, Mrs Taup would do well to contemplate the consequence of putting oka cheese on the table and be guide accordingly.

"The acquisition of wealth doesn't always gratify a man's ambitions," remarked the Wise Guy.

"That's right," agreed the Simple Mug. "By the time a fellow is rich enough to buy a lot of things he wants he doesn't want them."—Philadelphia Record.

Rasper : I think married men are more imaginative than single ones.

Harper : Why do you say that?

Rasper : It has been estimated that during a married life of fifty years a man will answer the question, "Where have you been?" 18,898 times. Surely that signifies the marvelous fertility of a married man's mind.—Answers.

In reply to a query yesterday as to "How's fishing?" the newspaper man was informed that fishing had gone to——,and that every day a fisherman went out the farther behind he was. "What is the good of fishing when the railroad is getting the biggest portion of our gross earnings and the fisherman is going further in debts?" we were asked "It cost $9 to ship a crate of lobsters to Boston and $2.83 for a barrel of clams—where does the fisherman get off at. The railroad has got the fisherman and farmers of this province by the throat and times will never pick up until they come down to more reasonable rates." And they are not far wrong at that. —Digby Weekly Courier.

A bill has been presented to the General Court, in the U. S. which, if enacted, will make it unlawful for any person, firm or corporation to buy, sell or have in his possession, any fish known to the trade as mackerel which is less than one-half pound in weight; striped or sea bass which is less than two pounds in weight; bluefish which is less than two pounds in weight; or butterfish which is less than one-quarter pound in weight. It is stated that is not intended that this law should apply to salt mackerel.

OUR PORTRAIT GALLERY



A. E. PONSFORD

Former President of the Lake Erie's Fishermen's Association and the one who is largely responsible for its success. Mr. Ponsford lives at St. Thomas.

NEW FISH PRESERVING PROCESS.

A tank containing a special solution—the secret of which is likely to become a valuable patent right—will soon displace the unwieldy and expensive slabs of ice now necessary to every fishmonger. This is the expectation not only of the inventor, a London engineer, but also of prominent members of the fish trade who have seen the tank.

The tanks would not be installed at the fishmongers' shops, but at the great fishing centres and markets where the fish would be placed in the tanks before going on the rail, and kept fresh for at least fourteen days.

"This process, if widely adopted, will revolutionise the fish trade," is the verdict of the secretary of the Fish Fryers' Association. "It will save thousands of tons of fish in a year. Fish will be cheaper, because ice is expensive."

"The cost of the process works out at, roughly, a farthing per ton" (said the inventor to a "Daily Express" representative last week). "I have given ten years of study to the problem of preserving fish, and I have got back to nature. Results prove that my labours have not been wasted."

STEAM PLANTS FOR FISHERMEN

The recent remarks of A. L. Hager, accentuating the tremendous distances which have to be covered in going from the home port to the fishing grounds under modern conditions, emphasize one of the principal disabilities of the steam plant as applied to fishing vessels.

All fishing vessels are small in tonnage and the large proportion of space occupied by a boiler and an engine has undoubtedly limited the application of mechanical propulsion to them, but when it is necessary to carry fuel sufficient for a week's voyage or more, the cost, weight and space occupied render the problem almost impossible of solution.

Fortunately, the development of the crude oil engine of diesel or semi-diesel type appears now to have reached a stage where dependability, the first asset of mechanical propulsion, is unquestioned. There are now available records to convince the most sceptical that the modern examples of this type of engine can be relied upon for constant unvarying service under all conditions.

Of the many varieties of internal combustion engines on the market, it is generally conceded that the semi-diesel or hot bulb engine is the most suitable for the fishing industry, because it is the simplest, and within the range of powers of say 30 to 509 horsepower, it is the most economical, having regard to first and operating costs. For powers below 30 some authorities consider the kerosene engine more applicable, but on the other hand it is probable that more hot bulb engines of less than 30 H. P. are sold than above.

It may surprise many to know that of the hot bulb type more than one hundred makes are now on the market in different parts of the world. It has been largely used in Europe for the past twenty years. One firm has turned out 25,000 engines and the first one is still running.

In Canada the position is quite different, and the adoption of the crude oil engine has been very limited, due to the interference of war conditions.

One of the most popular makes of engines with the Scandinavian fishermen is the densil, this engine having been developed with special regard to their requirements. Its main features include, starting by compressed air gases, engine speed control by varying the stroke of the pumps, forced lubrication by separate pumps and the possibility where wanted of arranging control by the steerman from the deck. In most small fishing vessels, reversible propellers are used, which permit of slow hull speed without reducing engine speed. In many cases also, a countershaft under the deck is driven by a belt off the forward end of the main engine, and operates the trawl winch, while the anchor windlass is driven by a messenger chain from the trawl which.

The installation of an engine of this type, as against a steam plant, means a reduction of fuel weight of from four to one, a reduction of machinery weight of from two to one, a reduction of machinery and fuel space of from two to one; a smaller and cheaper vessel to give the same service; a substantial reduction in fuel cost; elimination of stand-by fuel losses; no engineer or firemen required — the densil can be operated by any conscientious man; increased radius of operation; cheaper purchase, installation and running costs.

Owing to the general unsuitability of a steam plant for a fishing vessel, owners have hitherto frequently used gasoline and kerosene type engines, but the crude oil engine has several substantial advantagges even over these, particularly for the larger powers, and which may be summed up as follows: greater degree of safety, owing to use of high flash oil; greater economy, due to use of cheaper fuel; greater simplicity, due to elimination of electric ignition; valve gears, etc; slower rate of propeller revolutions and more sturdy construction.

The Densil engine, is being placed on the Canadian market by THE CRUDE OIL ENGINE CO. OF CANADA, Montreal. The engine is built over a wide range of powers and adapted for both marine and stationary purposes. Responsible agents are being appointed in all important centres and a central spare part reserve is being established in Montreal.

NOTES ON FISHING RESULTS FOR APRIL, 1922

The total quantity of sea fish landed on the Atlantic and Pacific coasts during the month of April was 251,333 cwts., valued at $1,121,445, compared with 144,433 cwts. valued at $1,006,673 landed in the same period last year. The increase in landings was chiefly due to the large catch made by Lunenburg Banking fleet.

The catch of cod, haddock, hake and pollock was 159,987 cwts. compared with 36,230 cwts. in April, 1921. The Bank fleet returned from their spring trip during the month with one of the best catches in recent years. The catch of cod shows an increase of 116,561 cwts. and haddock an increase of 6,978 cwts. when compared with the same period in the preceding year.

The catch of alewives in New Brunswick was 7,350 cwts. compared with 6000 cwts. landed in April, 1921.

The catch of lobsters during the month was less than half that of April, 1921, being 21,024 cwts. compared with 48,270 cwts.

Unfavourable weather conditions and scarcity of lobsters would seem responsible for the small catch. Since the opening of the lobster season the total catch has been 34,263 cwts., compared with 75,616 cwts. in the same period in the preceding year. Of the catch this season there were 21,416 cwts. shipped in shell and 6422 cases packed. In the same time last season 44,824 cwts. were used fresh and 15,659 cases packed.

On the Pacific coast the catches of halibut and herring were slightly greater and salmon less than those in April, 1921.

Five fishermen on the Atlantic coast lost their lives during the month.

NEW USE FOR WARSHIP.

French Cruiser Makes Admirable Fish Drying Factory.

M. Albert Sarraut, French Minister for the Colonies, who is now at the Washington Conference, may be able, if consulted, to gie useful hints a to what to do with the old battleships.

Just before he sailed for America he made a tour of the French West African colonies, and at Fort Etienne he visited the former French cruiser Chasseloup, which now surely serves a useful purpose. Riding at anchor in the bay, it serves as a fish-drying factory. On its decks sixty tons of fish can be dried at one time.

Port Etienne is the centre of a steadily-growing dried fish industry, and to the Chasseloup Loubat all fishing boats bring the cargoes to be cured and dried.

PACIFIC COAST SECTION

Several Seizures of American Vessels

Recently there have been several seizures of American Fishing vessels by Canadian Government patrols; this has resulted in the fishing vessel owners of Seattle getting very much interested and it brings up the old story about the fisherman being caught in the storm and having to run for shelter but it almost always develops that his fishing gear is still in the water when he is caught. This applies to the seizure of the halibut fishing boats. There are of course such seizures as that of the Clarion, a gasoline boat, which was seized on the West Coast of Vancouver Island within the three mile limit for selling gasoline to and buying fish (salmon) from the fishermen, where there is no possible argument.

The newspapers always carry a certain amount of publicity on this question but usually there is more or less talk of the storm element every time such seizures are made. It would be interesting to hear about the Canadian vessels being seized in the past. It may be true that Canadian vessels put into ports in Alaska but if they do so and break the law and are seized then it is to be expected they would have to stand the consequences.

Col. Cunningham Enters Business

Col. F. H. Cunningham, formerly Chief Inspector of Fisheries for the Dominion in British Columbia, has opened up offices for the transaction of insurance, and allied lines of business, and also to act as representative of mercantile houses who wish representation in British Columbia and Western Canada. The firm name will be F. H. Cunningham and Co., Ltd., and he is situated in the Duncan Bldg., Vancouver. With the large acquaintance which Col. Cunningham has there is no reason why he should not build up a good business. With Col. Cunningham is Mr. Reed, of Regina, who is an experienced insurance man.

Canned Salmon Market

Although there is a comparatively bare market, at the same time the canned salmon packers are not taking any chances. None of the packers in British Columbia will say they are putting up any more than a regular pack this season. They may take courage and pack more as the season goes on but just now they do not feel they are justified in taking any chances. It is a case of a burned child dreads the fire. Their past losses have caused them to be most cautious in their present year's pack.

What is left of the 1921 pack is fast disappearing and by the time the salmon begin to run this should be fairly well out of the way.

There is nothing that may be said about prices as there is nothing definite. Unless there is a firm offer no quotation is worth repeating and by the time a firm offer comes through the price may have jumped and then that deal is off. It is a case of the packers feeling their way.

Spring Salmon Fishing in Fraser Poor

To date there has not been anything to speak of in the way of spring salmon fishing on the Fraser. There have been some fairly good fresh fish shipments to eastern markets with fair returns but such shipments are more or less

LONGER NETS ARE PERMITTED

Amended fishery regulations for the Province of British Columbia give authority for the use of longer nets for the capture of sockeye salmon on the west coast of Vancouver Island. This provision is restricted to Juan de Fuca Strait and its object is to enable our fishermen to get a greater opportunity than they now have to obtain a fair share of the run of salmon making for the Fraser River. This run passes over to the United States side of the international boundary after it reaches the end of Vancouver Island and does not again emerge in Canadian waters until near the boundary line in the Gulf of Georgia. Elsewhere in southern British Columbia a gill net or drift net for taking salmon is limited to a hundred fathoms in length, with a maximum vertical breadth of sixty feet and a minimum extended mesh measurement of five and three quarter inches.

OBJECTS TO B. C. SALMON IN ST. JOHN

Thomas F. Allen, superintendent of the Tobique Salmon Club in New Brunswick severely criticizes the federal fisheries authorities for stocking the waters of the St. John river last fall with two hundred thousand fingerlings of British Columbia species of salmon. Mr. Allen states that the fish are 'cannery' salmon and are absolutely useless as a game fish. He further states that there is danger that this salmon, should it become thoroughly acclimatized, as the federal authorities apparently hope will crowd out and eventually exterminate the Atlantic salmon which is native to the waters and which for many generations has furnished anglers all over the world with a thrilling sport and on that account made the waters of New Brunswick famous.

MAY BUY FROM U. S. VESSELS

The customs department at Ottawa has been persuaded to alter its interpretation of legislation affecting the importation of American salmon at Prince Rupert. Occasionally merchants at the northern B.C. centre find it necessary to take American salmon from Ketchikan to complete orders. The customs officers maintained that while this was all right it was illegal to buy from American vessels landing, even on the payment of duty. It was a rather ridiculous situation and Ottawa has been made to see it with the result that hereafter purchases may be made from American vessels.

BUSINESS TRIP TO EAST

John Dybhavn of the Royal Fish Co., Prince Rupert, was on a tour of the east last month, visiting Chicago, New York, Montreal and other centres.

GASOLINE FROM FISH WASTE

The Japanese are said to have discovered a process for making synthetic gasoline from fish waste. If it is true then they have solved in large measure the problem of recovering the wealth represented in fish offal.

(Continued from page 113)

producers themselves. It is only in recent years that a decent, clean looking package was used for fish products. The labels on canned fish have improved some, but are still far behind the labels on other canned commodities. A well-printed uniform box for salt fish is a rare thing, and so on down the whole line.

I would grant that it is hard for small packers or producers to handle this matter by themselves but why not co-operate in a community to market the entire output under a uniform, clean, attractive package, just as the fruit growers are doing to-day, and take a fixed amount from each one for the purpose of advertising and telling the consumer what you have to offer. If you want to educate the public you have got to concentrate on a uniform quality of goods and a standardized package, and then you will have something to offer.

Producer Must Lead Way

You can readily see that it is up to the initial handlers to make their goods presentable in order to insure faith in the parties who handle them. The broker, jobber or commission merchant will then feel that he is building up something, and not selling job lots from time to time as he is doing now.

The biggest asset that an individual, a corporation, or a community can have is a business built up on quality and a mark of distinction that the public demands. Banks do not loan money on old wharfs, vessels and equipment, and if they do they discount them to almost nothing. But let a bank know that you have orders and repeat orders for your goods and this is the biggest asset you can have. I never advocated putting up private brands for any concern. Dealers that use private brands are "shoppers", and you are never sure of the business. The retailer and consumer demand a brand that is backed up by the packer himself. So you can see that any branch of the fish business can be promoted to almost any extent by getting together, cutting out all feeling of jealousy and eliminating in your midst the "don't care" man.

You will find there are always men in your employ that use the "good enough" phrase. They are infected with that "don't care" disease, and need a walking ticket to that big broad walk of Ease and Failure. In conclusion now that we have arrived at this station "co-operation" and we find the surroundings can be made more pleasant I will admit that it is still more or less hazy as we have taken this trip with the going down of the sun. Let us sleep over these different points and with the rising of the sun, shedding its bright lights and warm rays through the foggy mists we awake to see our competitors and fellow-producers in a different light, the same as he will see you. The fish business is going to be just what you want to make it, and the distributor of your products is going to rise to just such heights of enthusiasm as you can elevate yourself.

COD LIVER OIL 200 TIMES RICHER FOOD THAN BUTTER, HE SAYS

Professor Harden, of the University of London recently lectured to an audience of London teachers on vitamines, the mysterious and unidentified substances which, he said, had in recent times been found so necessary to life.

He described the experiments at Cambridge by Professor Hopkins on rats. On a certain diet the rodents would not grow, but wasted away and died. This was due to the absence of vitamines from the food. Given butter and yeast, however, they began to thrive and grow.



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In connection with the experiments, two Eastern diseases had come to the fore. The chief of these was beri-beri. A medical man in Java was greatly struck by noticing that chickens, when fed on boiled rice, developed a form of paralysis which was similar to the symptoms of the beri-beri patients in the hospital. He then found that when he gave the fowls raw rice, which had not been milled, they recovered. This led to the conclusion that the husks and germs of the rice contained something which would prevent the disease.

Medical men accordingly found that beri-beri was caused through the absence of the outside of the rice grain and of the germ. When, however, the rice was milled by modern methods, in order to give the food a good appearance, the disease developed. Thus the esthetic demand for white rice and white flour was attended by the sacrifice of a vital property, or properties, in the food.

The second disease, found to be due to faults of dietary, was scurvy, and the remedy was discovered in fresh milk, fruit, and vegetables.

Lard scarcely ever contained vitamines, while cod liver oil might be two hundred times as potent in vitamines as butter. In green vegetables they were present in considerable quantities. They were also to be found in egg yolk, but not in the white of the egg, but they were entirely absent from margarine, except oleo-margarine, which contained a certain amount of the fat of animals which had been fed on vegetables.

Other foods the lecturer enumerated as containing vitamines in greater or smaller quantity were oil seeds, carrots, orange and lemon juices and tomatoes, while swedes and turnips in particular contained a certain kind of vitamine. The place of honour, however, in the quantity of vitamines was taken by cod liver oil and not, as some imagined, by butter.

(Continued from page 110)

Comparison of these two different types shows that the solar salts contain greater quantities of impurities, such as calcium and magnesium chlorides and magnesium sulphate.

From the economic standpoint the exclusion of solar salt from the fish trade might cause hardship to the fishermen, by increasing the prices of mined salts and perhaps curtailing the supply. We suggest as a remedy that the salt dealers equip their establishments with a kiln and run all tropical salt through this machine, thus sterilizing or at any rate causing the death of the red organism which has a relatively low thermal death point.

The solar salts dissolved in water, boiled and recrystallized did not contain the red organism.

The results of experiments show conclusively that all known solar or sea salts, such as Iviza, Trapani, Torrevieja and Turks Islands contain the red organism which produces the pink discolouration of codfish.

On the other hand, the mined salts such as Liverpool and Malagash have never produced the pink discolouration and we have never been able to find any red organism in mined salts.

We have frequently checked these results by microscopical examination and cultural tests, and find the same organism in the solar salt as in the discoloured red fish.

Inspection of Curing Establishments

The amount of infection found throughout the curing houses varies considerably. Where cement is used for floors and tanks, it is easily scrubbed and cleaned, and, as there is little absorption, it is, naturally, free from reddening. But all wood, such as puncheons, tanks, tables, floors, walls, and even wood around the top of cement tanks, is more or less infected. A few firms have tried whitewashing all woodwork and wooden utensils, and claim that it is fairly satisfactory; although samples taken from whitewashed articles showed the presence of the red organism, probably the result of reinfection.

Pickled cured codfish is used almost entirely for fillets, boneless and shredded cod. At times consignments of such fish, which appeared in perfect condition when shipped, have been refused at destination because of the development of red discolouration. Or again, the infection may not be detected until after the fish has been prepared for the market. Neither fillets, boneless nor shredded cod are entirely free from infection. One thing is especially noticeable: all the establishments visited, which make up this class of goods, are using tables which are definitely pink in colour, and splinters taken from such tables showed the presence of the red organism.

There seems to be no attempt to store the fish at a definite temperature during any stage of curing, nor even after it is prepared for the market. It is merely a matter of the temperature prevailing, and varies with the locality and, of course, season of the year. Fishermen claim they have more trouble during the damp and warm seasons than during the clear and cool.

Remedial Measures

The most important point arising out of these experiments is the fact that tropical or solar salts carry the red organism, and so long as they are used in their present form, red colouration of fish is bound to follow.

Curing establishments that use this salt, or have been using it, have their tanks, floors, storage places, puncheons, kench racks, carrying boxes, utensils, etc., impregnated or inoculated with the red organism.

Therefore, all measures taken to deal with this problem must provide for:—

1. A supply of salt free from the red organism;
2. The destruction of the red organism in the curing factories wherever it has infected buildings, utensils, etc.

1. *Recommendations Regarding Salt.* Mined salt of suitable size of grain should be used until a supply of solar salt free from the red organism can be secured.

Measures should be taken to ascertain the duration of life of the red organism in tropical salt. Some of the manufacturers claim that such salt stored for three to six months is free from red organism. This contention should be subjected to laboratory control.

Importers of solar salt might sterilize this product by kiln heating. A comparatively low dry heat is necessary —100°C. for thirty minutes.

2. *Recommendations Regarding Cleaning of Curing Establishments.* All curing establishments which have used solar or tropical salts should clean and disinfect thoroughly all material which has come into contact with salt or fish.

Steam, if available, may be used for this purpose. Puncheons, tanks, etc., should be steamed inside and out, also all utensils, racks, etc.

All parts of the factory that have become infected should be washed well in fresh water. This will have two results: the removal of salt from woodwork, thus preventing the organism from growing, and the fresh water causes the disintegration of the red organism, breaking it down into a slimy mass.

All places infected, and all utensils may be washed in a disinfecting solution of one part sulphurous acid in 50 parts of water.

A good whitewash should be applied as soon as the cleaning up has been effected.

Care should be exercised to keep the premises and utensils clean, all refuse and offal should be frequently removed, and the floors scrubbed and washed often.



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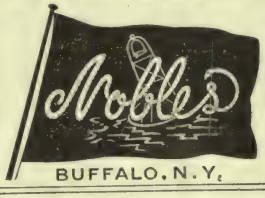
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Official Organ of the Canadian Fisheries Association

VOL. IX GARDENVALE, P. Q., JULY 1922 No. 7

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Official Organ of the Canadian Fisheries Association

A Monthly Journa devoted to the Commercial Development of the Fishery Resourses of Canada, and Technical Education of those engaged in the Industry.

VOL. IX GARDENVALE, P. Q., JULY 1922 No. 7

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Published on the 24th of each month. Changes of advertisements should be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. HARPELL, President and Managing Director.

GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express - - - - Ste. Anne de Bellevue, Que.

Eastern Manager, A. S. Christie, Gardenvale, Que.

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THOSE who receive this issue of the Canadian Fisherman as a sample copy—and we refer particularly to retail dealers throughout the country—are requested to peruse it carefully and decide whether or not it is of value to them. We would draw the attention of retailers especially to the article describing the success of Stanford's Limited in Montreal by the application of sound business principles. There is another article which submits some very pertinent questions to the retailer regarding his duty to the industry. Mr. Vhay, who is a practical fish man, in another article, also treats of the retail phase of the fish business; and there is a paper dealing with the safeguarding of fish orders in transit from the retail store to the consumer.

In addition there will be found a fund of information on the fish business in general and we think you will agree with us that for the sake of two dollars ($2) a year you cannot afford to be without it.

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.....192..

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Dear Sirs:

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EDITORIAL

JAMES H. CONLON, Editor

FISH AND TARIFF-MAKERS

The tariff issue in the United States is the nightmare of the Republican party. It apparently launched upon the policy with consideration only for the party's political principles and now, with the approach of a congressional election, it finds to its sorrow that the people are not in sympathy with the high tariff scheme. This is not the opinion of importing classes alone, but of the vast voting influence known as the consumer. The people generally see indications that the cost of living will mount; in other words, that the increased duties will be paid at home. The women are a shrewd lot. They do the family buying. Now they are to vote as well, and a full purse or a flat purse is a greater influence with the fair sex than the most consistent and forceful oratory of the republic's champion platform artist. The Republicans see all this, but have gone too far to retrace their steps. They must face the music and there is the possibility of a Democratic congress after the people have their say at the polls.

Trade with Canada is one of the important considerations in the tariff and with us trade in fish and fish products is of the greatest concern. For months and months the measure has been passing from congress to the senate and from senate ot congress and on each occasion amendments are made. The senate has just recently adopted the latest rates on fish, namely 1¼ cents a pound on dried fish; 2½ cents a pound on smoked herring; 1 cent a pound on pickled or salted herring and mackerel; 2 cents a pound on fresh, frozen or iced halibut, salmon and swordfish; and 30 per cent. *ad valorem* on fish in oil.

The high duties on North Pacific fish are designed to divert catches by American vessels through American Pacific ports instead of via Prince Rupert, which is the logical shipping point, both geographically and economically. To accomplish this an amendment by Senator Jones was adopted whereby the tariff will be levied on fish landed at British Columbia ports by American vessels, packed there, and later shipped in bond to the United States.

As Senators McCumber and Nelson rightly pointed out, the senate is "interfering with the convenience of the fishing fleets and telling the owners and operators of fishing craft that they must go to a port that is not convenient for the purpose of selling their fish and which may not have the proper facilities for furnishing the fleet with required supplies". Furthermore it puts American fishermen at a disadvantage in the American markets because of the adjacency of Prince Rupert to the fishing banks as compared with Seattle. It is doubtful whether in practice the fishermen would really use Seattle as against Prince Rupert. They may be tempted to transfer to Canadian registry and accept the full penalty and compete with Canadians on an even basis. It is impossible to overcome natural conditions and when the United States senate attempts to place Seattle ahead of Prince Rupert as a port for landing North Pacific fish it may just as well try to make the moon perform the functions of the sun.

Our Canadian policy as regards American fish has been much discussed in the tariff debates and in some cases, at least, with the idea of imputing unworthy motives to our government. There is nothing confusing or underhand in Ottawa's policy. It is both good business and fair treatment to our competitors. Americans are given the privilege of shipping in bond through our ports and those who use this privilege are further entitled to buy bait, ice and supplies in Canada. The latter privilege is not extended to vessels of American registry which do not land their fares at our ports. Is that not a fair proposition? It gives our cousins fishing in the North Pacific every facility to compete with us an even basic. Of course they cannot dispose of their fish in Canada without the payment of duty because fish landed from an American fisherman is in the same category as fish imported from Boston or any other United States centre and it is a part of our fiscal policy to levy a duty on fish.

The trend of the tariff discussions on fish discloses controversial issues on the west coast equally as serious as those on the Atlantic coast. In 1918 a commission attempted to straighten matters out but since that the time the government at Washington has changed and the official policy as well, so that these issues must be discussed again. The seriousness of the questions brooks no delay and the sooner overtures are made for a new international commission or its equivalent the better for all concerned. We want to live on terms of the closest cordiality with our neighbors and we know they feel the same toward us, but constant misunderstanding is bound to wear down the most intense friendship.

With reference to the proposed tariff it is too early yet to accept it. In will be August before the senate and house come together to compromise differences and it will be some time later before effect will be given to the ultimate tariff policy of Washington. In the meantime the congressional elections may alter the complexion of things

entirely, and the defeat of Senator McCumber in the primaries in North Dakota is significant in view of the fact that he was in charge of the tariff bill in the senate.

MONTREAL'S DISGRACE

A movement is on foot in Montreal, and we trust it will gather irresistible momentum, to make the Bonsecours market a place worthy of such a city. Traders, farmers, truck growers and others who assemble in the market to meet the consuming public, have had numerous meetings recently at which the present intolerable conditions were discussed. Of course, all Montreal knows what the market is like and the object of the meetings, apparently, was not to attract public attention but to bring a material pressure to bear upon the city fathers who, as a general rule, lend little attention to complaints of this character unless there is a considerable number of votes at stake to force it upon them.

In recent years things in the market of the metropolitan city have been going from bad to worse and those traders engaged in the sale of sea foods are being driven into remote quarters, that are not only ungainly and unwholesome but absolutely unsanitary. It is not only an imposition on those citizens of Montreal who earn their daily bread from the sale of sea foods and kindred products, but, in allowing conditions to continue as they are, the city fathers are absolutely neglectful of the public interest. A great deal of time and attention is devoted to civic comfort in improving the general appearance of the city, in providing recreational areas for old and young and in other ways in themselves quite commendable. But is there any way in which the city council may subscribe to the comfort of its people in greater measure than by furnishing the means to make its food wholesome and palatable? If one is not well fed the other material comforts abovementioned are of little or no avail.

The aldermen of Montreal are reputed to have great pride in their city. After seeing personally the condition of the Bonsecours market we can hardly justify the pride. They either know the situation and feel the market is sufficiently obscure to evade the notice of visitors, or else they do not appreciate the vital necessity for sanitary environments where food, especially of a perishable nature, is offered for sale for human consumption. If the former be the case then they aspire to only a superficial refinement, something that will impress strangers regardless of the comfort of citizens. Just the sort of refinement attempted by a country lass who tries to fall into city ways by confining herself in tight shoes and generally insufficient raiment, to make an impression, at the same time suffering the excrutiating tortures of the damned. On the other hand if the aldermen do not appreciate the seriousness of the situation let them consult their health department; let them have an investigation made, especially in the fish section.

It is the ambition of the fish trade in general to convey the products of our lakes and seas to the consumer in the best possible condition. The consumer expects it of the trade and the trade deems it a moral obligation. It is discouraging, to say the least, that in Montreal, the chief fish-consuming centre of the country, the authorities should be so remiss in their responsibilities as to be a hindrance rather than a help in the distribution of foods. This is a serious matter and the point that strikes us most forcibly is the appalling ignorance or the downright negligence of those who occupy seats around the civic council table.

U. S. VESSELS IN OUR PORTS

In view of the cancellation by the United States authorities of privileges extended to Canadian fishing vessels in their Atlantic ports, there are a good many who do not understand the present situation with regard to the liberties given American fishing vessels in our ports.

If conditions imposed by treaty were enforced, those provided in the Treaty of 1818 would rule. Under this, fishing vessels from the United States have the liberty to fish in common with Canadian fishing vessels in the territorial waters around the Magdalen Islands and on the north shore of the Gulf of St. Lawrence east of Point Joli at the mouth of the Natashquan river. They also have the liberty on the north shore to land for the purpose of curing their fish where there is no interference with the residents of the coast. On all other parts of the coast they are permitted to enter our ports and harbors for the purposes of securing wood, water, shelter and repairs and for these purposes only.

Conditions, however, do not revert to the treaty of 1818, at least, not just now. The Modus Vivendi arrangement which is now covered by section 3 of chapter 47 of the Revised Statutes of Canada, 1906, applies. United States vessels taking out licenses under this arrangement are granted concessions not provided by treaty. It is interesting to learn how this Modus Vivendi came into being and the reason for its continuance.

The Treaty of Washington of 1888, which is now commonly referred to as the "unratified Treaty of Washington", was signed on the 15th of February, 1888. It was realized by the negotiators that it would not be possible to have the treaty considered and ratified by the different governments in time to be effective for the fishing season of that year and in order to prevent the irritation and friction that would undoubtedly follow the limitation of privileges to United States fishing vessels under the Treaty of 1818, the British plenipotentiaries attached as a protocol to the treaty a document in which, in view of the circumstances, they expressed their readiness to make the following arrangement for a period not exceeding two years, in order to afford a *modus vivendi,* pending the ratification of the treaty:

1.—For a period not exceeding two years from the present date, the privilege of entering the bays and harbors of the Atlantic coast of Canada and of Newfoundland shall

be granted to United States fishing vessels by annual licenses at a fee of $1.50 per ton, for the following purposes:

The purchase of bait, ice, seines, lines and all other supplies and outfits.

Transhipment of catch and shipping of crews.

2.—If during the continuance of this arrangement the United States should remove the duties on fish, fish oil, whale and seal oil (and their covering, packages, etc.) the said licenses shall be issued free of charge.

3.—United States fishing vessels entering bays and harbors of the Atlantic coast of Canada or of Newfoundland for any of the four purposes mentioned in Article 1 of the Convention of October 20, 1818, and not remaining therein more than 24 hours, shall not be required to enter or clear at the custom house, providing that they do not communicate with the shore.

4.—Forfeiture to be exacted only for the offences of fishing or preparing to fish in territorial waters.

5.—This arrangement to take effect as soon as the necessary measures can be completed by the Colonial authorities.

The American plenipotentiaries also attached a protocol expressing their satisfaction with this proposal and intimating that they would convey the communication of the British plenipotentiaries to the President of the United States with a recommendation that it be made known to the Senate together with the Treaty, when the latter was submitted for ratification.

The recommendation was approved by Canada and this was the start of what have subsequently been called the *modus vivendi* licenses. While the treaty was not ratified Canada, as a matter of grace, and with the hope of obtaining some satisfactory settlement of the whole question continued the authority for these licenses, first by special act from year to year, and later on the Statutes were amended so as to give the Governor-in-Council the authority to renew the licenses, which authority now forms section 3 of chapter 47 of hte Revised Statutes.

AN UNWORTHY EXHIBITION

L. H. Martell, K. C., who represents Hants, N.S. in the House of Commons, was for some years in the service of the fisheries department at Ottawa, and for that reason we had expected he would offer valuable constructive criticism in parliament on fisheries matters. Whatever good he did accomplish in this regard was more than offset by the vitriolic attack he made upon Andrew Halkett, naturalist in the fisheries department. When Mr. Martell gave the impression to the house that Mr. Halkett was practically ignorant of scientific matters and that he was more or less of a useless appendage to the department, he disgracefully misrepresented the true situation and in view of the writer's knowledge of true conditions, we cannot but feel that Mr. Martell's attack was inspired by animosity toward Mr. Halkett, and that he used the privileges and protection of parliament to vent his feelings, where Mr. Halkett or the administrative head of the department had no opportunity to refute.

When Mr. Martell intimated that Mr. Halkett was without scientific knowledge and rather a hanger-on, he must at the same time, because of his previous association with the department, have known of the warm tributes paid by many scientific authorities to Mr. Halkett for compiling his Checklist of Canadian Fishes. Furthermore when he led the house to believe that Mr. Halkett was more or less of a nuisance to the lobster fishermen of the Maritime Provinces by lecturing to them on the conservation of the species, he is as far away from the truth as the north pole is from the south. Mr. Halkett's work in this regard has been of particular value and is warmly appreciated by the industry. He has labored assiduously year after year with the conservation of the lobster as the goal and any insinuation that he has not accomplished results cannot be prompted by an honest recognition of facts.

None in this country has the welfare of the industry more at heart than we. The discussion of fisheries matters in the house has been watched closely and we have no hesitation in giving credit where it is due. At the same time we feel we should be shirking our duty and doing an injustice to Mr. Halkett, if we allowed Mr. Martell's statements to go unheeded.

UNIFORMITY OF FISH PRICES

In all the countries of Europe there has been, and there still continues to be, a slump in the demand for fish, Norway, Holland, Denmark, France and Germany are devising means of stimulating demand. Germany is particularly active in this connection and no doubt sees the necessity for maintaining a seafaring population if, even in the very far-distant future, she is to have a navy again. Herr Lubbert, director of fisheries for the state of Hamburg, is leading the German propaganda. He is an eminent authority on fishery matters and during the war held an important post in Berlin in connection with the distribution of fish foods throughout the empire.

At a recent meeting in one of the fishing centres Herr Lubbert pointed out that increased production was useless without increased consumption, and the scheme submitted by him, which he said was originally taken up in 1911, but was interrupted by the war, was summarized in the phrase "Sell cheaper fish." The trawling fleet was now greater than ever it was, and butcher meat was dear, and the circumstances provided a suitable opportunity for developing the trade in fish. The preliminary part of the scheme was similar to that inaugurated in Canada during and since the war.

The high food value and comparative cheapness of fish were to be emphasised in the newspapers, and cookery books were to be placed on sale at the cost price of one mark. The main proposal, however, was that two days

in each week should be boomed as "Fish Days," and that a committee of officials and traders should fix the prices a day in advance for the Fish Days. Retailers were to be asked to give a written undertaking to adhere to those prices, which would be published officially in the daily press, with a list of the shops in which such prices would obtain. After considerable discussion Herr Lübbert's proposals were carried unanimously, and a price committee, consisting of two officials and five dealers, was appointed to deal further with the matter.

The latter point referred to above, that is, uniformity of prices among retailers in a given centre, strikes us as being of the utmost importance. Here in Canada in any community one will note a variation of fish prices which the consumer finds it difficult to understand. He immediately jumps at the conclusion that some of the dealers are 'robbers' and this naturally inspires a doubt as to the honesty of methods employed throughout the industry. Anyone who gives a little thought to the matter will realize that the fish business is not one of big profits, but if the demand for fish is to be increased confidence must be created in the minds of the public that it is being given a square shake. We realize that many things enter into the fixing of the retail price of fish but some such scheme as that proposed in Hamburg would, we feel, go a long way toward removing a prevailing suspicion of the business morality of retail fish dealers.

PISCATORIAL PARAGRAPHS

While many Canadian products have lost their wartime hold on the English market, British Columbia salmon is not among these, according to the Montreal Gazette's correspondent in the old country. Immediately following the close of the war the product of the Pacific province suffered many vicissitudes from which it has now largely emerged. The British Columbia canners were no doubt wise in sending Colonel Cunningham across to represent their interest during the perilous period.

Though we are much concerned about our fishery problems, both domestic and international, we at least have consolation in the fact that they are on the minds of the highest authorities. Premmier King, accompanied by Hon. G. P. Graham visited the United tates capital this month to discuss many things with President Harding and Secretary of State Hughes. Among the matters our chief executive talked about was the necessity of fish conservation in the waters of the north Pacific and also in the North Atlantic beyond the three-mile limit. There are other issues, too, but we may feel assured that the premier is well advised about them.

Strong sentiment prevails in the West Indies, according to Hon. W. L. Mc Kinstry, treasurer of British Honduras, for a form of confederation among the various island of the West Indies group and ultimate union with the Dominion of Canada. In view of the market offered for our fish in this region, such a union would be eminently desirable from our viewpoint and we only trust that Hon Mr. McKinstry reflects the actual thought of the people and was not inspired in his declaration by being on Canadian soil. Whatever happens we trust there shall be no more suggestion of transferring the property to the United States to redeem war debts. While the islands are the property of the empire to keep they are not the property of the empire to give.

FISHING RESULTS FOR MAY

During the month there were 839,455 cwts. of sea fish landed on both the Atlantic and Pacific coasts valued at $2,464,899, while during the corresponding period last year 667,380 cwts. valued at $2,062,107. were landed.

The catch of cod, haddock, hake and pollock was 96,759 cwts. compared with 112,657 cwts. in May, 1921.

The quantity of herring landed shows an increase of 170,188 cwts. when compared with the catch in May, 1921, there being 467,481 cwts. and 297,293 cwts. landed in these respective months.

The spring mackerel fishing shows 19,899 cwts. taken compared with 12,354 cwts. in the same month last year.

The catch of 14,305 cwts. of alewives is nearly double that for May, 1921; there being 8,343 cwts. landed during the latter period.

There were 169,545 cwts. of lobsters taken compared with 155,266 cwts. in May, 1921. Owing to drift ice on that part of the coast where the season opened on May 1st, the fishermen were not able to set their traps until the middle of the month or later, but average catches were made and much better prices obtained than at the same period last year. Since the opening of the lobster season 203,808 cwts. have been taken compared with 230,882 cwts. during the corresponding period in the preceding year. Of this season's catch 47,570 cwts. were consumed fresh and the remainder packed making 78,117 cases. In the same period last year 45,617 cwts. were shipped in shell and 78,098 cases packed.

On the Pacific Coast the catch of halibut shows a decrease from 33,286 cwts. landed in May, 1921, to 23,222 cwts. in the month under review. The catch of salmon shows a good increase from 9,050 cwts. in May, 1921, to 17,533 cwts. for May of this year.

Two fishermen lost their lives while fishing during the month.

SUMMER BANK FISHING DISCOURAGING

The two spring fares of the Lunenburg grand bank trawling fleet totalled 119,325 quintals, figures show. Eighty-three vessels were engaged. Eight dollars a quintal was paid the schooners for the first catch of 43,575 quintals and the same price for two cargoes of the second trip which have been sold. This price is expected to stand.

The vessels are now on their summer trip and reports are that so far they have met with utter failure. It is too early yet for a pessimistic outlook, it is pointed out, but some of the vessels at this time last year had 1,000 quintals of their summer fares. The summer trip normally is looked to as the big one of the season.

Fisheries Convention in September

Large gathering in Montreal is anticipated — Impossible to make event international as first proposed

Montreal, September 18 and 19.

That is an entry for members of the Canadian Fisheries Association to make on their calendars. It's important that they should bear the occasion in mind.

After first referring the matter to the membership at large the executive at a recent meeting definitely decided upon the above dates as being the most suitable and most convenient for all concerned. Particular care was taken in selecting the dates as it is hoped to have large delegations from all branches of the association and from affiliated bodies. Sub-committees have been formed among the members of the Montreal branch and preparations are already under way for the reception and entertainment of the visiting delegates and for the items on the business programme.

Some weeks ago the executive selected A. H. Brittain as chairman of all convention committees and he has selected the following to assume chairmanship of the sub-committees:

A. H. Brittain, general chairman and programme committee.
W. R. Spooner, finance committee.
J. T. O'Connor, hotel and registration.
D. J. Byrne, entertainment.
J. A. Paulhus, reception.
J. H. Conlon, publicity and information.
H. G. Connor, golf and banquet.
Mrs. J A Paulhus, convenor ladies' committee.

By the middle of the month these various committees had been formed and a budget of the requirements of each had been submitted to the chairman of the finance committee.

Mr. Spooner forthwith launched upon his campaign and the success he has achieved to date is a tribute to this ability in things of this nature, but above all, an indication of the desire on the part of eastern members to give the delegates a royal welcome and a memorable time.

The programme has been pretty well arranged and will, very likely, be announced in the next issue of the Canadian Fisherman, as well as in the bulletin to members of the association. It is the endeavor of the committee to make each item on the schedule of practical interest to the delegates and to achieve this the various numbers are being selected with the utmost care. A high value is placed upon information produced by discussion on addresses and papers and the programme is to be published well in advance that members may be put in a position to discuss the issues intelligently.

The Convention will be the first since June, 1920 and for that reason there has been an accumulation of business and likewise there must be accumulation of interest and enthusiasm. Inquiries from all parts of the country indicate that a good many members are postponing their vacations from business to take in the event and there is every reason to anticipate the most successful gathering in the association's history, both from the viewpoint of numbers attending and the profit accruing from the meetings.

Sought to Make it International

Early in the year a movement was launched on both sides of the international line to make the forthcoming convention not only a national but an international event. It was proposed that the United States Fisheries Association should hold its business meetings concurrently in Montreal and that the two bodies should unite in general meetings for discussion of problems of mutual interest and also in the recreational features of the programme. The United States organization, however, found it impossible just at this time to adopt the suggestion and at the same time be reasonably assured of a liberal attendance of their members and for this reason the project was abandoned for this year and the American body will convene in Atlantic City in September.

There were a great many features which would have made this international gathering most desirable. It may even have been the means of building a foundation whereupon the governments of both countries could confidently build an understanding on controversial fishery questions. However, the project was impossible this year but perhaps next year or some time in the not distant future an international gathering may be possible.

"Get-Together"

That is the slogan that has been adopted for the convention. There has been, and there still is, lacking in the fishing industry that quality of cohesion among the various interests which has made a tremendous success of other industrial associations. As the slogan indicates, the idea is to impress upon members that close co-operation is the secret of the organization's success and unless each contributes something more than his annual fee the strength and influence of the C. F. A. cannot be developed as we hope.

The get-together spirit has sprung up simultaneously in the west and in the east. While the executive was meeting in Montreal and planning the convention several of the directors suggested that the spirit of co-operation should inspire the gathering. About the same time the president, A. L. Hager, Vancouver, wrote suggesting the "Get-Together" slogan. It epitomized the feelings of all. It hit the nail squarely on the head.

So members are asked to get together in Montreal at convention time and also to bring along with them that "get-together" spirit which is the vital factor of any organization. Get keyed up and pepped up to the occasion. Come with the view of contribbuting something of value and of learning something of value. While much is being done for the entertainment of the delegates the gathering is essentially for the discussion of matters of common interest. But don't run away with the idea that fun-making is to be neglected. All work and no play makes Jack a dull boy. And Montreal offers many facilities for entertainment not readily located elsewhere on the continent.

TRAWLER DID NOT HAVE SUCCESS

The Canadian trawler that joined the mackerel seining fleet this spring did not meet with success. The fish appeared plentiful but they were difficult to get, due perhaps to inexperience on the part of our fishermen. Next year they may do better. The inshore fishing was very good, however.

Mr. Duff as Minister of Fisheries

Opportunity may present itself for Premier to satisfy the insistent demands of the fishing industry

Never before since the fishing industry in this country began to assert its rights has a better opportunity been offered to secure ministerial representation of our interests in the federal government, than just at this present time. The occasion is opportune for more reasons than one. From the industry's viewpoint there is considerable to be thankful for in that one of its leaders is prominent in the front rank of the ministerial party. This is no illusionary advantage, either. During the recent session of parliament the fishing industry has received more consideration than it has enjoyed at any period of its history, excepting that recognition forced by the exigencies of the war. Nor has this consideration been accidental. It has been largely the result of the presence in the house of William Duff, Lunenburg, N. S.

The industry has watched Mr. Duff during the five years he sat on the opposition benches. It watched him because he gave promise of being faithful to the interests he represented and being at all time a fearless exponent of policies and principles of benefit to the industry. When by the turn of the tide in December last, Mr. Duff was returned to Ottawa to a seat among the ministerialists, the industry became even more watchful. It was anxious to learn whether Mr. Duff in power would be as keen for the progress and development of the fisheries as he appeared to be when in opposition and when his position was logically that of a critic. Be it to Mr. Duff's everlasting credit that he measured up to the industry's expectations. The record of proceedings in the House of Commons and in committees of which he was a member, bears ample testimony that he is not merely a figurehead but an active, honest and vigorous agent of the industry in parliament. His influence on all occasions when the opportunity arose has been wholeheartedly with the industry. Nor have his actions been of the nature of gallery play. In the limelight of the House of Commons and in the seclusion of committee meetings he has been equally frank and earnest. We have watched proceedings with the closest scrutiny and it is our firm conviction, and we pass it on to everyone engaged in the fish business from coast to coast, that Duff is the man to secure for us during the present political regime those considerations and concessions that we have failed to secure in the last decade by every artifice and plea the industry could command.

The Chance is Here

We focus the industry's attention upon Mr. Duff just at this time, because, as we have said, the occasion now presents itself to give Mr. Duff cabinet rank. We do not for one instant think that the Hon. Mackenzie King needs proofs of Mr. Duff's qualifications. He has long since respected the advice and suggestions of the member from Lunenburg and had sufficient confidence in his ability to take him along as a platform companion in his victorious political crusade. But we should like to have the Prime Minister impressed with the fact that besides the natural claims which may his by virtue of ability and political considerations, he has a pre-eminent qualification in that he holds the greatest confidence of the fishing industry. There is a vacant judgeship down in Nova Scotia and if rumors mean anything, Hon. D. D. Mackenzie is slated for it, pending domestic acquiescence. That means a vacancy in the cabinet representation from the bluenose province. Other ministerial changes are talked of and the Hon. Mr. Lapointe is said to have wearied of the portfolio of marine and fisheries and to have fixed his eye on something more to his profession. The two points that combine to make the situation so propitious are, first, that Mr. Duff is eligible for promotion to the cabinet, and, second, that he is supported by the entire fishing industry. And having obtained a seat in the cabinet there is only one logical portfolio for him.



Has A Good Record

It seems superfluous to recite what Mr. Duff has done during the last session. First and foremost he took a firm stand in the Crow's Nest Pass controversy and insisted that if parliament should accept the compromise offer of the railways, fish must be included among the commodities to have a reduction in rates. It was he, too, who was responsible for the grant of $5,000 to boost the international fishermen's races. In fact it is generally understood that he is consulted on all fishery policies but the difference between Mr. Duff and the Hon. Mr. Duff will be that instead of being consulted on policies he will be in a position to initiate policies, and being a practical fish man who has demonstrated

Extending Use of Danish Seine

Fishing conditions on Atlantic Coast excellent — Lobster, mackerel and cod fisheries all produce good results.

(From Our Own Correspondent)

The conditions on the Atlantic coast are excellent as compared with the previous two years, and the prospects are that the revival of fishing and trade will be permanent.

The three fisheries of greatest interest thus far this season were,— the lobster, mackerel and cod. The markets for canned lobsters were poor at the opening of the canning season, consequently every effort was made to fill orders for early deliveries. The western Nova Scotia season, ending June 1st., was a great disappointment, and the catch and pack will hardly be more than one-half that of the previous year. Many of the fishermen attribute the small catch to the special fishing season of six weeks granted last fall, as they claim the operations carried on during the special season depleted the available catch for this year. This contention appears to be quite reasonable in view of the fact that in nearly every instance the catches fell off before the close of the fishing period for each district. It would therefore appear that the available yearly catch for each district is limited, consequently extensions to the fishing seasons are finding little support from the more intelligent fishermen.

The season on the Gulf coast of Prince Edward Island and Nova cotia closed June 26th., and was quite satisfactory. Chief Inspector Fisher has recently returned from Prince Edward Island and reports that the catch was considerably larger than last year, the pack being increased by about 8,000 cases. He was particularly gratified at the improved canning conditions. While some of the cannery buildings were not satisfactory they were all immaculate in cleanliness and sanitation. The canners plan extensive improvements in accomodation and equipment, and reconstruction will be much in evidence, in preparation for next year.

In Cumberland County, Nova Scotia, the catch was the greatest for some years. Ten canneries operated, or three times as many as in the previous year.

The fishermen of Port Hood, Cape Breton, from Broadcove to Port Hawkesbury had gratifying success, notwithstanding ill conditions made operations impossible until about the middle of May. Lobsters were unusually plentiful, and the price double that of last year The catch was 936,000 lbs. as compared with 553,000 lbs. the previous year. The value of the catch increased from $23,497.00 to $75,508.00.

Beyond question the great improvement in canning operations and in the preservation of the seed lobsters is largely due to campaign carried on by the Department the past three years. Dr. Knight has been the leader in this work and much of the success must be attributed to his energy and interest. He was ably assisted by other gentlemen well qualified for the work.

The importance of the lobster fishing and canning industry cannot be overestimated. It is the one big industry where the cash returns to the fishermen are unusually generous and instantly available. Prince Edward Island alone has about 190 canneries, and the industry is second only to that of agriculture. The fishermen are taking a very lively and intelligent interest in the preservation of the fishery, and the prospects are that not only on Prince Edward Island but on the whole Atlantic coast lobster fishing is taking its proper place as an industry of prime importance, warranting every effort and expense to preserve it from harmful exploitation, and to extend its possibilities.

Mackeral Fishing a Success

The mackerel fishery occupied the centre of the stage during May and June. It is estimated that over three million pounds were landed by our fishermen. The landing in Halifax alone were about two million pounds. Considerable catches continue to be made.

The schools were first located by the cruisers "Arras" and "Arleaux" in the channel between Georges and Browns Banks on May 10th. Catches of any considerable quantity were not made until about May 20th., after which date the landings were heavy. The fish struck close inshore and gave exceptional opportunities to the nets-men.

It is to be regretted that the Canadian seining fleet of eight vessels did not meet with much success, due in some measure to the fact that seining is practically a new business to our men, and they were therefore not familiar with the signs and operations. Large catches, comprising about 10,000 bbls. were taken in the Magdalen Island during June.

The cod and haddock fishing has been good, with prices to the fishermen about thirty per cent. better than last year. The Lunenburg fleet has landed the catches of two trips, totalling about 70,000 quintals, and has recently returned to the Banks. The market prospects are encouraging, as very small supplies were on hand at the beginning of the year.

(Continued from previous page)

ability and who enjoys the unlimited confidence of the industry, we feel assured we would get action. However willing others have been in the past they have lacked that comprehensive understanding of our difficulties which is the big attribute of the minister we hope for.

Mr. Duff has spent his whole life in the atmosphere of the industry. He was born in Newfoundland in the year 1872 at Carbonear. He was educated in the public schools there and later at Falkirk, Scotland. After completing his school education he engaged with his father in a mercantile fish business until 1895 when he came to Nova Scotia to shift for himself. He first located at Bridgewater, remaining there for five years. Then he moved to Lunenburg where he has actively engaged in the fishing and shipping business ever since. He was first re-elected to the House of Commons in 1917 and he was re-elected last December. He was elected mayor of the prosperous town of Lunenburg in 1916 and has been re-elected by acclamation each year since then.

Today Mr. Duff has numerous interests in the fishing and shipping business. He is managing director of the Lunenburg Fish Co.; director of the Acadia Gas Engine Co.; director Chester Basin Shipbuilders, Ltd.; director Acadia Stationery Engine Co.; director Nova Scotia Trust Co.; director Lunenburg Outfitting Co.; director Ritcey Bros., Ltd.; director Lunenburg Marine Railway Co.; director Ernst Shipbuilding Co.

Scallop Fishing Profitable

Investigations carried on the past three years to locate new scallop areas have resulted in new prospects for development at a number of points along the coast. The most important discovery has made in Digby Basin and the Bay of Fundy. Recently, in the Bay, one boat with two men took 8,000 scallops in one day, having a value of $88.00.

The big salmon catch of last year for New Brunswick and Nova Scotia bids fair to be repeated, as large catches are again being reported. The total salmon catch last year on the Atlantic coast was over 2,650,000 lbs., with a marketed value of over $500,000. Northern New Brunswick was responsible for the greater portion, over 1,500,000 lbs. being taken,—valued at $304,000. The catch for Charlottetown and St. John Counties, New Brunswick was over 400,000 lbs. valued at $75,000. The catch for Nova Scotia was over 600,000 lbs., valued at $128,000.

Danish Methods Being Extended

Considerable interest is being taken in the proposed introduction of the Danish method for deep-sea fishing which is fast superseding the beam or otter trawling in the North Sea. Mr. W. N. McDonald, Sydney, C. B., is outfitting six trawlers purchased from the government at the close of the war, and will operate them under the Danish method this fall.

Capt. John Smith, Halifax, formerly in charge of the government herring steamer "Thirty-three", recently returned from Scotland, where he secured equipment and proposes outfittting for the purpose of carrying on operations under the Danish system. Capt. Smith reports the steam trawlers are fast being superseded by the introduction of the Danish method of fishing in the North Sea, as it is far superior to the trawler method. The vessels used are much smaller than the trawler, carrying only about five men each, and as they remain at anchor during the fishing operations they require only about one-third the fuel supply. Further, the catches are taken from the seines much more quickly and in better condition than those taken by the steam trawler. Also, the actual fishing gear is comparatively inexpensive. He is of opinion that there are great possibbilities for our fishermen by the adoption of the new method, as many of the smaller fishing vessels of forty tons or over may be utilized.

The operations proposed to be carried on by Mr. McDonald and Captain Smith will be watched with interest.

MEETING OF INTERNATIONAL COMMITTEE

The International Committee on Marine Fisheries Investigations met in Montreal, Canada, May 26. The full delegations for the United States and Canada were present, comprisinb, for Canada, Wm. A. Found Dr. A. G. Huntsman, and Prof. J. Playfair McMurrick, and for the United States Drs. H. F. Moore, R. E. Coker, and H. B. Bigelow. The temporary interruption of transportation between Newfoundland and Canada prevented the attendance of James Davies, member of the committee for Newfoundland.

To insure the preservation of continuous and permanent records of the work of the committee, it was deemed advisable to designate a member of the committee to be permanent secretary, and Dr. A. G. Huntsman was elected to that position. While the original records will be maintained in Canada, complete copies of all minutes will be filed with the U. S. Bureau of Fisheries and the proper office in Newfoundland.

Standard Cures

Last fall the Norwegian government enacted a law providing for compulsory inspection and grading (vracking) of all split fish exported and all sold domestically in lots of more than 500 kilogrammes. The following summary of the act is interesting.

Fish of 1921 or earlier are excepted, and the law does not become operative as regards "exports to Europe until May 1st of next year"; while in any case fish under the second grade exported to Europe are meantime also to be excepted from its provisions. Split fish not liable to compulsory inspection, and also wet-salted fish (i.e., fish not yet put through the drying process), may be presented for inspection voluntarily. A special staff of skilled practical curers, consisting of a travelling inspector, five or more chief "vrackers" (with districts), and a sufficient number of vrackers and of assistant vrackers is being created under the Director of Fisheries to undertake the work.

Charge for Grading

A charge ranging from 1d. to 3d. per cwt. is to be made for vracking, except apparently on the first presentation of split fish for inland sale.

The grades into which the split fish are to be sorted are: Norsk No. 1, the finest fish, properly treated from first to last; Norsk No. 2, good fish slightly damaged in preparation, cured within two days, properly dried, although perhaps unevenly salted; Norsk No. 3, badly torn, or discoloured, cured within four days, properly dried, and not burned by sun or artificial heat; Norsk No. 4, poorer than No. 3, but properly dried to keep, and passable as split fish for export. Small ("smaafisk") 40-50 centimetres (15¾ to 19¾ inches) from fork of tail to line of shoulders. Extra small ("Smaasma"), from 35 to 40 centimetres (13⅞ to 15¾).

Other Fish Included

The foregoing refers to cod only, but the assortment of ling, torsk, coalfish and haddock is essentially on the same principles, but different sizes are specified.

For export to South America and Cuba certain modifications are allowed (not published, but communicated to the chief vrackers), forming five classes, viz., Rio large, ordinary prime, and inferior quality; La Plata, and Havana. All fish for Cuba and South America must be in cases or boxes; those for La Plata and the Pacific coast must be in a wooden case with a metallic lining.

Need Not Be Dried

Fish of new season's cure exported not later than June 15th need not be dried for storing, but only sufficiently dried for shipping. Wet-salted fish to be sorted in three classes, viz., mixed (not poorer than second grade split fish); inferior (not poorer than fourth grade); and small. The fish must have lain in salt for at least four weeks. The result of each inspection is to be entered in a certificate, which, in the case of exports, is to be attached to the shipping documents. In the case of inland sales one copy is to be retained by the vracker and one handed to the owner of the fish.

If practicable, the packages containing the goods are to be marked officially to show that they have been inspected but such marking is not to indicate the quality of the fish. The law is to be reconsidered not later than 1925. The above, it may be added, is only a summary. The "instructions" contain 10 sections and 58 paragraphs.

Freight Rates, Parliament and Fish

Commodities of Fishing Industry share all the raises in rates but fail to enjoy the reductions

(BY PISCATOR)

Hon. F. B. Carvell, chairman of the Board of Railway Commissioners, announced recently in connection with a complaint of the Connecticut Oyster Company, Limited, of Toronto regarding the express classification of oysters in jars, that express rates on fish generally would likely be investigated soon.

That's encouraging. The sooner the better. The industry has been bullied out of rightful reductions in the iniquitous freight adjustments, along with numerous other industries, and it is trusted that "investigation" at least means the prospect of return to transportation charges compatible with the condition of the industry.

The board has not yet handed down a decision on the application of the Canadian Fisheries Association for a twenty percent reduction in express charges. The hearing took place in March.

One of the most important issues of the session of parliament just closed had to do with railway freights rates and a decision as to whether or not the Crow's Nest Pass agreement with the Canadian Pacific Railway should be further suspended or restored. The question was one in which the fishing industry had an intimate interest because it saw the prospect of lower rates and a recovery of trade which has been discouragingly dull for months. The final settlement, which was a much confused affair in which parliament thrust responsibilities upon the railway commission and the latter tossed them back, displayed absolutely no regard for the fishing industry. With the exception of the arbitraries restored in the Maritime Provinces and which apply only on shipments west of Fort William, not a single rate was lowered on fish. Apparently no one has a bit of regard for the development of the natural resource nor respects the fact that the people of this country have between fifty and sixty millions of dollars invested in it and are engaged in the industry as a means of livelihool to the number of 150,000.

These latter points bear no significance apparently because of the fact that those engaged in the industry are not organized in a political way. If parliament's decision in the controversy is typical of its future policies then either we must work for the abolition of class domination or jump into the political field ourselves and wield a political power. These days it is obviously not a question of the justice or injustice of a project, but its political expediency. But political expediency can be carried to a limit and I am not sure that in connection with the adjustment of freight rates it has not extended beyond the limit.

The outstanding facts of the situation are: The Crow's Nest Pass agreement between the government and the C. P. R. obligated the railway to maintain certain rates in a specified area in the west in return for financial assistance in building the Crow's Nest Pass. Because of unforeseen conditions the agreement was suspended in 1918 until July of this year and the railways were permitted to enforce rates which paid for the traffic handled. Now this year the railways (both were affected by the agreement) asked that the agreement be further suspended and offered as a compromise a general reduction on certain basic commodities (fish not included) amounting to, generally, 16.66 per cent. in the west and 20 per cent. in the east.

General Percentage Increase in 1920

Now I will leave that just there for a moment. Recall, too, that in September, 1920, the Board of Railway Commissioners ordered a general increase in rates amounting to 40 per cent. in the east and 35 per cent in the west, stipulating that five per cent. should be lopped off on January 1, 1921 and another ten per cent. on December 1, 1921 and the balance on July 1, 1922. The first two reductions did take place, but the last — no.

And why? Well there is in the House of Commons a dominating factor in the Progressive party. The ministerial party is not secure without assistance from either of the parties on the outs. It appears the government particularly wants the support of Crerar's contingent from the middle west. That is why, when parliament was asked to decide upon the issue of the Crow's Nest Pass agreement, it was agreed to further suspend it, except—and pay attention to this—as regards the rates on grain and flour. There was no logical reason why this exception should be made. Considering the issue by itself and in a sound business way, the point to be decided was this: have abnormal conditions sufficiently abated to enable the railways to restore the agreement rates without disastrous results, or is it advisable to further suspend the agreement because of the inability of the railways to bear the loss of revenue its enforcement involved?

Parliament agreed, and I believe every one in the country agreed as well, that it would be a dangerous course to hold the railways to the written agreement. But why in the name of justice and common sense should that decision not apply to grain and flour among the other articles and commodities. If the railways could not afford to move everything on the agreement rates they certainly couldn't afford to haul grain and flour on the basis of those rates.

But that didn't matter. These interested in the movement of grain and flour had an important following in the house and the government found it expedient to accede to their demands. The other interests must pay the piper.

What Railways Offered

I will show you how. As I have said, the railway in presenting its compromise arrangement offered a reduction on certain basic commodities amounting to 16.66 in the

west and 20 per cent in the east. This of course was conditioned upon the suspension of the whole agreement. But parliament didn't suspend it as applied to grain and flour. Everything, excepting these, was left to the railway commission, which decreed that in view of these special concessions to the farmers the railways could not withstand a greater reduction than seven and one-half per cent. on the other basic commodities the railways stipulated (fish again excluded).

The point we arrive at now is this: with the suspension of the whole agreement the general cut on stipulated basic commodities would have been 16.66 per cent. in the west and 20 per cent. in the east. Because of the concessions parliament extended to the farmers, all other interests concerned must be satisfied with a seven and a half per cent. cut. In other words they are contributing to pay the deficit which the railways will suffer by handling grain and flour at a rate far below actual cost.

It may be good government policy but it's pretty shaky business policy. Apparently both the government and the railway commission realize this as they have both refused to accept reponsibility for the final arrangement. Parliament says it merely stated a policy as to grain and flour and referred the balance of the question to the commission. The latter maintains that while the balance was referred to it, it came with a recommendation which it felt was really government policy and should be carried out. The buck is passed with the apparent object of confusing the public until the thing peters out.

Government Chiefly to Blame

Neither the government nor the commission, I feel, is entirely to blame. The government is responsible, however, for taxing other industries to pay freight on grain and flour, and cannot shirk it. On the other hand I do not believe the commission was bound to accept a suggestion from parliament nor that it felt itself so obligated, but it found the excuse to extricate itself from a disagreeable situation.

The increase granted by the railway board in 1920 was a general percentage increase and the two reductions since then have been on a general percentage basis. Why shouldn't the cut be on the general percentage basis on July 1? The original order of the board in 1920 provided for this. I doubt if any industry in the country requires the reduction more than the fishing industry and it seems impossible to understand why a few articles are picked out for a reduction. How did the railway board select the commodities to get preferred treatment? It is striking that they follow the list of "basic commodities" submitted by the Canadian Pacific Railway. And why the C.P.R. picked them is just as obscure, unless it was that they in print conveyed the idea of a substantial reduction which was not borne out in practice.

MAY CATCH FISH WITHOUT BAIT

During the Quest's recent Antarctic cruise gigantic marine forests were discovered and new fishing grounds located. The Antarctic waters were found to be alive with edible fish. Fish in the Antarctic were so plentiful that it was unnecessary to bait the hooks. The deepest soundings were taken about 500 miles east of the South Sandwich group, where a depth of 2,700 fathoms was registered.

Approaching Tierra del Fuego the Quest ran into kelp (seaweed) at an unusually long distance from the shore. Soundings showed a depth of 100 fathoms, so these marine trees, whose tops were just visible above the water, exceeded the height of the tallest land trees by 150 feet.

Odd Fishes

The angler, or fishing-frog, with its mouth almost as wide as its body is long, is one of the very queerest of fishes. On its back it has a number of threadlike appendages which others think are the small organisms which form their own food.

Before they have discovered their mistake they have fallen a prey to the frog, which does not miss much, with such a capacious mouth. Its appetite, too, is enormous; for in the stomach of one as many as 75 herrings were found!

The sea-horse of Australia lives amongst seaweeds, being camouflaged by a floating fringe resembling the weeds, which enables it to lure its prey close enough to be captured.

Another instance of camouflage for the sake of obtaining food is that of a prawn and a small fish which live inside the mouth of a gigantic anemone. They are both white, with red lines, and these colors act as a snare to numerous sfall creatures which the anemone kills, and all three have a share in the spoils.

There is a curious family of fish to which the climbing perch of India belongs. They are constantly in and out of the water, and often travel overland. In the rainy season they pass from stream to stream, and from pool to pool. When the hot weather comes they busy themselves in mud, from which they emit a gurgling sound. If put in an aquarium they will escape it they are not covered in.

The callichthys, found in the rivers of tropical America and the West Indies, cannot live for more than a quarter of an hour under water, and has to rise to the surface to breathe. It has been known to live for five days entirely out of water.

The periopthalmus, common on the shores of Indian and Australian seas, frequents roots of mangrove trees. When at rest it lies with its body out of the water, the tail only being immersed, and it goes ashore in search of food.

The blenny quite commonly leaves the water, apparently liking plenty of air.

In South African waters swims a fish something like a toad, and rejoicing in the name of billy-blow-up. This is derived from its practice of puffing itself out when caught. Another of its peculiarities is that of being poisonous.

Pilchards—to come back to our own fish—have a wonderful sense of smell, and can detect a favorite food, consisting of the spores of olive seaweed, fully 20 or 30 miles away, especially after spawning, when they are thin and ravenous.

It is a curious fact that, if food is abundant, the fish appears in shoals; but when it is not particularly plentiful, they do not arrive in such great numbers, as if some instinct told them just how far the supplies would go round.

CANADA TAXES FISH OILS

This week a Water Street business man received a letter from his agent in Montreal informing him that the Ottawa government had decided to levy an import tax of two cents per gallon on Newfoundland fish oils entering Canada. In view of the fact that the local government exacts a similar export tax from the local trade, our fish oils are materially penalized before they can be marketed in the neighboring Dominion.—Trade Review, Newfoundland.

Maritime Fish Corporation

History of wide-awake institution whose foundation marked an epoch in the Canadian Fishing Industry

By ROY. M. WHYNACHT

The Maritime Fish Corporation Limited became an entity on the 23rd of April, 1910. Previous to that date the growing popularity throughout Canada of fresh and mildly cured Atlantic deep sea fish was being catered to by a number of comparatively small producers located principally along the coast of the Maritime Provinces. Those pioneer producers laid the foundation of the present day industry in fresh and mildly cured fish from the Atlantic coast to the interior and they did it without cold storages, steam trawlers, government mackerel scouts, wireless telegraphy, special selling staffs, etc., etc., which now are considered necessary for successful operations. The principal factor in their success was just plain, hard work without adherence to an eight-hour, ten-hour or any-hour day, but when the fish were "running" they worked all day, all night, all next day and perhaps another night and so on until either they or the fish were "all in". Next they packed a few fresh in barrels for Upper Canada and then, somewhat on the principle of the man in the lobster canning factory who said "I eat what I can and what I can't I can", they smoked as many of the remainder as they could and the rest were split, salted and dried for consignment to the West Indies and South America. Usually these consignments netted for their shippers fair returns and the consistently fortunate ones blossomed into the "codfish aristocracy" of Nova Scotia; but frequently these consignments had unhappy endings, much to the discomfort of their shippers, and the consistently unfortunate ones were overwhelmed with losses.

Those early small shipments of fresh and smoked fish to the distributing centers of Quebec and Ontario taught the people of Upper Canada the desirability as well as the advisability of incorporating fish in their diet and especially the finely flavored Atlantic varieties. The demand gradually increased until an acute need was felt for more regular supplies on the coast and better transportation service to the markets. The former need called for modern steam trawlers which were able to run in and out of harbors and to and from the fishing grounds in all kinds of weather, ignoring "head winds" and "dead calms"; and the latter need required specially refrigerated freight cars and fast express service. Steam trawlers usually catch a lot of fish and large factories with cold storage facilities are required to handle their landings expeditiously so that they will reach the consumer in first class condition. Necessary elements in the construction and operation of large factories, cold storages and steam trawlers are vision, capital, executive ability and practical experience. All these conditions and requirements were first appreciated and successfully treated by Mr. A. H. Brittain (introductions unnecessary!) who organized a company which apparently possesses all the requirements, for, since its birth more than twelve years ago, it has been functioning quietly and uninterruptedly in the performance of its task of supplying wise Canadians with first class fish products which, like the general manager, need no introduction from the Atlantic to the Pacific. Some of the products have attained even wider popularity, having been well received in the United States, South America, Europe, Asia, Africa, Australia and New Zealand.

In the organization of the company everything seems to have been anticipated and provided — modern plants on the coast nearest the most important fishing grounds; ample means of catching fish, consisting of steam trawlers, sailing vessels, motor boats and all their many accessories; the inauguration of the quickest means of shipping all varieties of fresh fish to their various markets, spacious smoke houses for the production of finnan haddies, fillets, kippers, etc.; natural and artificial driers for the preparation of fish for export to foreign countries; a modern canning plant for the production of "chicken haddies" and "codfish flakes"; a



A. H. BRITTAIN, General Manager

glue factory which uses the skins and fins from the fish factories in the manufacture of the stuff which "sticks everything but the buyer"; and another factory which utilizes the only thing left of the briny denizens — the bones — for the manufacture of fish meal which is as popular in the country's barnyards as the other "Maritime" products are in the country's dining rooms.

While much credit is due the general manager who planned and promoted this complete organization and to those who showed their faith in it by practical monetary support, yet probably the most effective achievement was the amalgamation and incorporation of a number of the most progressive firms on the coast, which turned the theories into facts and made possible

the elaborate plans conceived at Montreal. These coast firms represented the industry of the pioneer producers who theorized little but worked much and whose practical experience left very little for them to learn about the production and preparation of the commodity with which they had been familiar from the cradle. These firms, who were well known to the trade throughout Canada, were:

The Canso Cold Storage Co., Ltd., Canso, N. S.
The Whitman Fish Company Limited, Canso, N. S.
The Pioneer Steam Trawler Company, Halifax, N. S.
Messrs. Short & Ellis, Digby, N. S.
Mr. Howard Anderson, Digby, N. S.
Messrs. A. H. Brittain & Co., Montreal, P. Q.

The combination of these firms and the Montreal head office with its efficient sales staff and agencies throughout the country, made a very effective organization and the new company started its operations in a most auspicious manner. A strong directorate was formed of the following well known business men:

Mr. James W. Pyke, president
Mr. Alfred H. Brittain, vice-president and general manager
Mr. Harold G. Connor, secretary-treasurer
Mr. H. B. Short
Colonel Chas. W. MacLean
General Chas. A. Smart
Dr. Milton C. Hersey
Mr. C. E. Archibald
Mr. Robert Bickerdike

The main producing centers were established at Canso on the east end of Nova Scotia and at Digby on the west end, the former being the most convenient operating point to the shore fisheries of eastern Nova Scotia and Cape Breton and to the important grounds of Canso Bank, Middle Bank, Banquereau, Sable Island Bank and Misaine Bank; and the latter being adjacent to the extensive shore fisheries of the Bay of Fundy and but a short distance from Brown's Bank, Georges Bank, Roseway Bank and La Have Bank.

Canso Operations Described

The Canso branch exemplifies the acme of efficiency. Every known applicable device for the expeditious handling of fish is brought into play at this well equipped plant.

It draws its supplies from four main sources, (1) small shore boats, (2) trap nets, (3) sailing vessels, (4) steam trawlers.

The small boats are equipped with gasoline motors of from five to fifteen horsepower and they fish close to the shore where they catch their fares on long strings of baited hooks which "set" an hour or two and are then hauled. After running in to the factory and landing their catch, the boats bait their strings of gear again and go out for another set whenever conditions are favorable. The bait they use is strictly fresh herring or squid for the fish they go out to catch have most fastidious tastes and always demand the best or they absolutely refuse to bite.

The traps consist of long nets which are set out close to the shore every spring and taken in toward fall whenever the shore fish become too scarce or rough weather too frequent. They are anchored off the shore on a large circular pattern with a long arm or leader reaching out to intercept the schooling fish and direct them into the centre of the trap. When the trap is set, all that is visible is an irregular circle and an extending line of small floating kegs to which the top of the perpendicular net is fastened, while its bottom edge is held down by small anchors. Whenever the fishermen tending the trap, who live temporarily in shacks nearby, wish to make a haul, they close the one opening and purse the bottom of the trap together with a line arranged for that purpose, and then bail the imprisoned fish out into their boats to be carried to the factory. A very advantageous feature of this method of fishing is that any excess of captured fish, which cannot be handled at once, may be held without additional expense for ice and containers by simply letting the fish swim around within the trap's enclosure until the boats are able to accommodate them.

The vessels sail from fifty to five hundred miles away from the shores and fish on the "banks" using similar equipment to that of the small shore boats. This method is the oldest practiced in America. Long before Cabot or Columbus braved the Atlantic, it lured the Northmen from their homes to fish the identical areas frequented



H. B. SHORT, Manager at Digby

by many Canadian vessels today. In the present age of speed, however, it is slowly but inevitably being replaced by more modern methods especially for the production of fresh and mildly-cured fish for domestic consumption such as the company, which is the subject of this article, requires for the major portion of its business.

The steam trawlers, the most modern and reliable source of supply, work night and day, winter and summer, dragging their mighty nets over old Atlantic's prolific floors, four hundred feet below the surface, and haul pure and wholesome from the dim depths a myriad fare of haddock, cod, flounders and many other finny delicacies. The great bag net is opened on the trawler's clean upper decks and, gleaming like silver in the light of electrics at night, or as gold in the sunshine by day, the glittering, living fish pour into the pens, protesting vigorously at their ruthless introduction into light and

open air. While yet unmarred in form and color, alive and unbruised by hooks or handling, the fish are beheaded and thoroughly washed and cleaned in salt water sprayed from hose pipes and stored away upon shelves of crushed ice down in the steamer's frigid fish rooms.

From all these sources of supply many millions of pounds of fish are landed here annually and one can appreciate the fact that an elaborate factory is required for their proper reception and disposition. Such a factory is the one at the corporation's Canso plant, which is comfortably adequate for all the demands made upon it by their well developed methods of production. The fish are received, washed and buried in crushed ice in numerous compartments, and prepared for shipment fresh, canned, frozen, smoked and pickled.

The fresh fish department is the simplest one, its chief requirement being speed. Speed in cleaning, washing, re-icing and packing the fish in standard boxes which are loaded in special refrigerators and sent rolling by fast freight to the distributing centres of Quebec and Ontario.

imately 12,000 tons of ice annually which they harvest themselves every winter.

The smoking department is conveniently planned. The fire-proof houses are well constructed and are idle only during extremely warm weather, when it would be impossible to smoke the fish without overheating them. All the haddies, fillets, kippers, bloaters, etc., must undergo a thorough examination before being packed and those found not up to the "Maritime" standard are packed and disposed of in plain boxes at a less price than is commanded by the standard brands.

All the scrap from the fish plant goes over to the factory of a subsidiary company, the Robinson Glue Company, Ltd., where the skins and fins are manufactured into a high grade glue and the bones are treated and ground into meal which is purchased by the manufacturers of chicken and poultry foods. The demand of the glue factory cleans up all scrap immediately it is made, thus keeping the main plant free from any accumulation of this material and assuring the smaller plant of a continuous supply of freshly produced raw stock which enables them to turn out a sweeter and purer glue and



Maritime's Trawler Badly Iced Up

The canning department is obviously much more complicated. The small, young haddock are selected and transported to the canning room, where they are again washed and trimmed of fins, skins and bones. They are then cooked in steam retorts and packed by modern machinery in sanitary enamel-lined cans and each can is again lined with a pure vegetable parchment paper. Women, attired in white smocks and clean cotton gloves, pack the fish and, knowing that their product is for the critical inspection of their sisters in the purchasing market, they exercise a similar discrimination and pack only those fish which are perfect in color and quality. The company takes much pride in this department as it is one of the most modern canning factories in America.

Much experience is necessary to the successful freezing of fish and their proper treatment after being frozen. This department at Canso is equipped with a cold storage with a storing capacity of 65,000 cubic feet and fitted with a 95-ton York compressor. In addition to all this chilling equipment, the company uses approx-

fish meal than would be possible without such co-operation. This subsidiary plant with its equipment and original patents, which are the oldest in America and which have since run out, was acquired from glue manufacturers in the United States.

The directing genius of all this activity and who has surrounded himself with an efficient staff, is Mr. H. F. Robinson, who has successfully managed the Corporation's Canso branch since it was established. He has almost a personal acquaintance with every fish landed at his plant and with all the many intricate operations which transform them into food for the nation.

The Plant At Digby

The Digby branch is situated on the shores of the beautiful Digby Basin, which is the attraction for thousands of the tourists who go to Nova Scotia every summer and few of whom fail to visit the well kept wharves and other extensive premises of the company's Digby branch. Although "keep out" signs are displayed at various points about the place, nevertheless the local management enforces them only when the cu-

rious visitors become too numerous and threaten to hinder proceedings, for it is real music to the superintendent to hear their exclamations of pleasant surprise and the volleys of complimentary remarks which the fine appearance of the busy plant seldom fails to elicit; however, an undesired sequel of these annual visitations, your correspondent is informed, is a flood of tiny orders every fall from households in every state between and including Florida and Washington for a small box of the fish, "such as we saw at your plant last summer". The manager says that they usually try to accomodate those from territory which is not covered by their agents and retail dealers.

Seeing the plant through the tourists' eyes, one first gets an impression of an orderly and well-planned group of buildings, all painted uniformly in dark red with white trimmings. Closer examination reveals the fact that the characteristic feature is cleanliness, for the grounds surrounding the plant are never marred by rubbish and the fish-cutting rooms are treated to a spraying and drenching of clean, fresh water at the close of every day's operations. Four well-built and well-kept wharves receive the landings which are automatically hoisted out of the boats in hundred-pound baskets, dumped into large tubs of clean, running water, washed thoroughly and, those which are not immediately shipped in the fresh state, are buried in crushed ice for a short interval awaiting the various processes by which they are transformed into the finished products. The tourist has a fleeting glimpse of many-tinted, gleaming cod, haddock, hake, pollock, cusk, halibut, mackerel, flounders, herring, smelts, skate, scallops, mussels, winkles, etc., as they come up from the sea in an amazing, endless procession and are hurried over the warf and under the ice, preliminary to their diversified journeys in transformed conditions to various parts of the globe. Some of them have to endure a brief sort of purgatorial period in the smoke houses before they are released for their journey to the market; but this treatment should not dismay them as the houses are the finest it is possible to construct and the smoke is generated from specially selected hard woods from the slopes of Nova Scotia's North Mountain. Other varieties, after being split and laid in strong pickle for about three weeks, are exposed to the refreshing atmosphere of the tourist country on what is undoubtedly the finest natural fish-drying plant in North America and which has been the subject of many stationary and motion pictures. The drying racks are constructed entirely over a clean grass field keeping the fish free from dust; they are never touched by the heavy coast fogs which prevail in the Bay of Fundy just a few miles away; they are constantly fanned by the cool breezes of the adjacent land-locked salt waters of Digby Basin; and they are protected during exceptionally hot weather by specially provided cotton shades—conditions which constitute absolutely ideal treatment in the preparation of export fish. The spreading capacity of this plant is a quarter of a million pounds and in conjunction with it the Company operates two artificial dryers, one by the hot water piping system and the other by the circulating hot air system, in which the fish get their "finishing" treatment before shipment to the countries near and south of the equator. The company also operates on the premises a well-stocked general store for the convenience of their fishermen and factory workers.

The site of the Digby plant cannot be passed over unnoticed. In comparison with the expansive basin confronting it and the high hills surrounding it, especially Mount Beaman (Ben Lomond) sitting in calm dignity just across the vessel channel, it seems to nestle cosily in its little corner and to look out upon the world acquiescently, satisfied with its luck of being refreshed twice daily by the cool fringe of the mighty and unfailing tides of old Fundy; of continually dwelling in the land of romance and refining airs, and of having the very flavor of its famous products permeated by the charm of its environment.

Mr. H. B. Short, the Manager, is so well known from the Bay of Fundy to the Strait of Georgia that to eulogize him in this article seems unnecessary. Mr. F. L. Anderson, the superintendent, is a close second to the manager in his popularity and supervision of the numerous activities of the Digby industry.

Head Office In Montreal

The Head Office, Montreal, although located far from the "fields" of production, is nevertheless in possession of complete information regarding current happenings along the coast, and naturally occupies a most favorable marketing position. Its coast information covers the movements and fares of its steam trawlers, sailing vessels and motor boats, the general movements of the fish, the paths of storms, temperatures, etc., and these messages are usually transmitted from the branches to head office in approximately fifteen minutes, thus making it possible for the Montreal sales staff to give their customers practically up-to-the-minute information about conditions on the coast which would be likely to affect the market.

The head office silently performs another service to the many dependents of the industry by constantly watching developments adversely affecting it, notably the restless and somewhat refractory express and freight tariffs which are being amended constantly and usually without much apparent regard to the trade's requirements. The company's traffic expert, Mr. Herb Welham, keeps himself well posted on these matters and many adverse regulations which might retard the industry's progress are exposed and corrected.

Mr. H. G. Connor, the Secretary Treasurer, is a most reliable and conscientious official in the administration of his departments and is largely responsible for the remarkable system which characterizes the interior economy of the corporation.

No history of this company, nor, indeed, of the industry, would be complete without a reference to the late Captain Howard Anderson, who was the head of one of the old amalgamated coast firms and the first superintendent of the Digby branch and manager of the corporation's vessels and property. Much of the company's success can be traced to his sound judgement, the result of experience first as a fisherman and then as an independent operator, and he contributed much to the present enviable record of the "Maritime" products.

CANADIAN FISHERIES CONVENTION
Montreal, September 18th and 19th
Keep it in mind

Speculation on Fishermen's Races

Four, at least, will participate in Canadian Elimination races and government grant may encourage others.

By COLIN McKAY

Thanks to the effort of William Duff, M.P., for Lunenburg parliament has granted $5,000 to aid the international fishermen's race this fall. During the discussion of fisheries estimates early in the session Mr. Duff brought forth the suggestion. It received the vigorous support of members from fishing constitutiencies and the Hon. Mr. Lapointe promised to give the matter attention. In the supplementary estimates the minister of marine and fisheries asked parliament to make the grant. As would be espected, a few landlubbers in the house whose most intimate experience with the sea has been the sniff of a salt cod or the casual reading of fishermen's misfortunes in the columns of the press, raised a little objection, but they were soon quelled by the overhelming approbation of those who knew something about the affair and its significance.

It is announced that the fisheries department has decided that the whole amount will be given to the winner in the Canadian elimination contest to enable it to fit cut adequately for the international event.

The International fishermen's races which will be held off Gloucester, Mass., this fall for the Halifax Herald Cup, emblematic of the championship of the North Atlantic fishing fleets. are bound to create more interest than the previous races, because during the past winter two vessels have been built in New England and two in Nova Scotia, which were intended by their designers to capture the blue ribbon. The New England the *Puritan* designed by Mr. Starling Burgess and the *Henry Ford,* designed by Captain Thomas McManus. The Nova Scotia vessels are the *Mahaska,* designed by George A. Rhuland of Lunenburg, and the *Patriot* built at Mahone Bay, a large craft about which little information has been given the public; too large, some say, to comply with the conditions set forth by the donors of the International trophy.

The Boston schooner *Mayflower* will no doubt be declared eligible as a candidate for the International races this year. She will, in any case, be entered, barring accidents, in the elimination races for American craft, and if half the tales of her prowess are true will give a good account of herself. The Mayflower was designed by Burgess, and is slightly larger than the Puritan, the Burgess model built last winter.

The *Bluenose* of Lunemburg, present holder of the blue ribbon, will no doubt be in the Canadian elimination races which will be held off Halifax. The *Canadia,* the Shelburne built craft, will also be entered in the elimination races, though she did rather poorly last year. The captain of this fine looking craft expects to do much better this fall.

The Mahaska and Patriot, the two new schooners built in Lunenburg County during the winter, have made trips to the banks, but little or nothing is known of their performances under sail — except perhaps among a limited number of close-mouthed fishermen. This is not surprising. The Lunenburg fishermen do not brag about their vessels unless they have special occasion. Last fall after Captain Angus Walters had made the usual number of fishing trips for the season in the Bluenose, her designers, W. J. Roue of Halifax, asked him how she sailed.

"Well, she sails a little," said Captain Walters.

"That does not tell me a great deal," said Mr. Roue.

"Have you been in any races during the season, and if so how did she make out?

"Well," said Capt Walters, "she passed Sirius one night".

Going Some To Pass Sirius

"What kind of sailer is the Sirius? Don't think I ever heard of her".

"'Tis the dog-star I was referring to — not a vessel", said Capt Walters. "One night I left a youngster at the wheel and as he did not know the compass very well I told him to keep her head on to the dog-star and he would be all right. But I hadn't been below very long before I heard a hail from deck."

"'Hi, skipper'" sang out the youngster, "'Come up here and find me another star. I've passel that one.'"

"And sure enough when I went on deck the dog-star was right astern and the youngster was sure he had steered a straight course and not let the vessel turn round on him. So I think she can sail a wee bit".

The Mahaska, the new Lunenburg contender, is the 122nd vessel built under the direction of George A. Rhuland, of Smith and Rhuland, in whose yard the Bluenose was built, and the 110th vessel which Mr. Rhuland has built to his own designs. When she was launched Mr. Rhuland was asked if he expected her to show exceptional speed.

"Yes, I think she will sail," answered Mr. Rhuland. "I don't think she will beat the Bluenose by the wind, but running or with a free sheet she should beat the Bluenose, for I think the Mahaska will be more lively. However, we cannot tell what she will do, we gave her a lucky name, launched her wet and she may be a lucky sailer".

The Mahaska was built for Captain Emiel C. Mack, a veteran fishing skipper, better known as "Paddy" Mack. She is ten feet shorter than the Bluenose overall, two feet shorter on the water line, and has one foot four inches less beam. Her mainmast is six feet shorter

than that of the Bluenose and her mainboom is seventy-two feet compared with eighty-one feet of mainboom swung by the champion. The new vessel will spread 2,-100 yards of duck, compared with the champion's spread of 2,800 yards.

The Mahaska cost -19,000, a little over half the coast of the Bluenose, which could be reproduced today for about $30,000. She gets her name from an Indian village in Alberta, and Captain Mack hopes that in the races the superstition among the fisherban of Lunenburg that a vessel having three A's in her name will be lucky, will find justification.

The Mahaska has a sharper bow and lighter stern than the champion, and carries her breadth of beam farther aft. Her underbody is more concave that of the Bluenose, giving her a harder bilge.

U. S. Craft Last Word in Design

The three American candidates for the honor of racing for the blue ribbon of the fishing fleets are the latest words in designs combining the demand for speed with seaworthiness. These two qualities were the principal requirements that the designers of the older type of New England fresh fishermen, such as the *Esperanto* and *Elsie*, had to meet, and in this respect the American designer had, and still has, a freer hand than the Canadian designer. The New England vessels are built for fishing the year round; they are able to carry a large quantity of permanent ballast, because their maximum catches of fish only make a limited demand upon their hold space. On the other hand the Nova Scotia schooners are only intended to carry on fishing operations for a part of the year, and are expected during the winter months to engage in the coasting trade, or make voyages to the West Indies, Brazil, or Portugal. This means that their designers must make cargo-carrying capacity an important consideration; in fact cargo carrying and ability to withstand the winter storms of the North Atlantic are the supreme considerations, which must take precedence over the demand for speed. Again as the majority of Canadian fishing vessels of the size and type eligible for the international races are salt fishermen, speed is a minor consideration even when engaged in fishing. Whether they are a day or a week late in reaching port with their fares of salt fish makes no difference in their earning power, as the prices paid for salt fish are not subject to variations dependent on daily or weekly arrivals. The New England craft of the type entered for the races are all fresh fishermen; and for them speed is a consideration of importance, because the first arrivals usually command higher prices for their catches.

The intention of the donors of the International trophy was to encourage races between genuine fishermen, constructed primarily for commercial purposes, but with as much speed as could be obtained without sacrificing the real mercantile purpose of fishing craft. But in February of last year, as soon as the Mayflower was in frames and her body lines observable protests arose in Gloucester that she was a departure from the spirit of the conditions laid down in the deed of gift of the cup. Some time later R. C. S. Kaulbach of Lunenburg, who had watched the construction of the Bluenose, visited Essex, inspected the Mayflower on the stocks, and on returning gave an interview to the Halifax papers in which he said:



The "Elsie" of Gloucester which unsuccessfully defended trophy last year



The "Bluenose" of Lunenburg which last year wrested the Dennis cup from the United States

Mayflower Outclasses All

"The Bluenose is not in the same class as the Mayflower and never can be made to win in any sailing contest with the Mayflower unless they get caught in a gale with heavy seas, which is not likely to happen with fourteen miles of harbor sailing in the official course laid down for the races of 1920.

"The Mayflower is a schooner designed on perhaps the finest racing lines that were ever embodied in a vessel of her class in the U. S. A. She is the last word

as far as that type of vessel goes — and speed lines predominate. She possesses a symmetrical, delicately and finely-lined wine-glass underbody, and her designer, Mr. William Starling Burgess, her syndicate and her builders are to be congratulated on her production.

"The question, however, remains: Is the Mayflower a real fisherman as intended by the promoters of the International Fishermen's races? That question must soon be settled by the International committee. In my opinion the difference in the lines and construction of the Mayflower and those of the latest of the Gloucester and Lunenburg fleets is so great that a race between them would be of little interest (after the first day) unless those in command of the Mayflower chose to make it interesting to the public. The Mayflower is not a fishing schooner, according to the Nova Scotia conception.

Under the conditions laid down by the donors of the cup "the only vessels which can compete for the trophy shall be bona fide fishing vessels which have been engaged in commercial deep sea fishing for at least one season previous to the race". And it is provided that any vessel competing must have actually sailed from her last port of departure for the fishing banks not later than April 30th of the year in which the race is held The Mayflower sailed from Boston before April 30 last year, but she called at a number of Nova Scotia ports and it was after the time set that she sailed on her last lap for the fishing banks.

The International Committee barred the Mayflower from the race because of her failure to comply with this rule. It is possible that the committee might have strained this technical point if there had not been a pronounced feeling at both Gloucester and Lunenburg that her admission would be a serious damper upon the enthusiasm of both ports, and that if she walked off with the cup there would be no more International races so long as she was available as a defender. The Mayflower had during the summer acquired a redoutable reputation, and rightly or wrongly the belief had spread that in moderate weather she could show her heels to any other craft out of New England or Nova Scotia.

Beatable In Heavy Weather

Today, however, both Nova Scotia and Gloucester while freely admitting the prowess of the Boston flyer in light or moderate winds believe that there are two or more schooners which would beat her in heavy weather. During the race between the Bluenose and Elsie, when both were lugging all sail to a thirty knot breeze, the Mayflower appeared off Halifax harbor and started to follow them over the course, but although she had her topmasts housed she could not stand up to the breeze as well as the contestants, and soon gave up the idea of following them around the course. True, she was not then in racing trim, having ice in her hold and twenty or more dories piled on her decks. At the same time she had more than twice the weight of permanent ballast which the Bluenose carries, and might have been expected to carry her four lowers in a thirty knot breeze much better than she seemed able to do.

The Mayflower followed the fishing all last winter, and, according to various accounts, behaved admirably



The "Mayflower" as she appeared on the course last year

in all kinds of weather. It is said, too, that she has been a financial success, though her first cost was undoubtedly high for a fishing schooner. She is still as much of a yacht in her lines as ever, but if there are still objections to her admission to the races on the grounds that she is more of a yacht than a fishing vessel they are not now vociferous. The International Committee may have to deal with protests that she is not in her design a bona fide fishermen, but in face of her performances in the winter fishing it is not likely much weight would be attached to them. The probality is that no protests will be made. Gloucester now has schooners more or less specially designed as racers; and for the two international events of Halifax she had to rely on old vessels, because in the last decade most, if not all, the fishing vessels built had been equipped with auxiliary motor power and had neither the speed lines nor the sail area of the older types. Nova Scotia, too, is fairly satisfied that in heavy weather the Bluenose would beat the

(Continued on page 157)



Canadian Elimination, 1921
"Bluenose" leading with "Canadia" on weather port and "Alcala" astern

In Parliament--Culled from Hansard

Fishery Act and Canned Foods Act amended during recent session — Hon. Mr. Baxter asks about separate department

Certain amendments to the Meat and Canned Foods Act affecting Fish and shellfish, were adopted by the House of Commons on June 17. The amendments, the Hon. Mr. Lapointe explained to the house, had been previously submitted to and discussed with fish canners in British Columbia and the Maritime Provinces and met with their approval. They were chiefly for the purpose of remedying defects in the act as it stood. The law is made more stringent, however, in regard to the importation of canned fish designed for export only.

The minister of marine and fisheries explained to the committee the reasons for the various amendments and his remarks are herewith reproduced:

Mr. LAPOINTE: Paragraph j section I of the bill was intended to make clearer what was meant by "dry lobster meat". There was already a definition, and some words are added to it. It was also to give some latitude in the length of time for draining the liquid from a can before the meat is weighed. The time is at present fixed as one minute, either more nor less. By the new bill we extend it to one minute and a half.

Section 2. At present under subsection 1 of section 12 A, canned fish and shellfish are subject to inspection during the course of preparation and packing only. The amendment provides that such fish and shellfish may be inspected at the cannery any time after they have been packed or at the first purchaser's warehouse, if he so desires. It is also proposed to substitute the word "labelled" for "marked," as being more in line with the intention of the section. The word "fish" in paragraph (a) is the result of a mistake. It is, therefore, being replaced by the word "first" as originally intended—the "first" dealer instead of the "fish" dealer.

Subsection 4 of section 12A provides for the exemption from the labelling requirements of canned fish and shellfish exported to foreign markets or the markets of the United Kingdom. That is the law as it was. This does not include Australia and New Zealand; it says only foreign markets and the United Kingdom, hence the change in the wording of the subsection to "markets outside of Canada."

Section 3. Section 12C, which is to be repealed, provides for the seizure of unsound fish or shellfish before packing, but does not make any provision for so dealing with unsound fish or shellfish when in the cans. As fish and shellfish found to be unsound prior to canning are amply provided for in section 12B, the amendment to section 12C is intended to cover unsound goods in cans. That is, we have the same right even after they are canned.

Section 4. The amendment to section 12D is intended to fix definitely the size of each of the five sizes of cans at present legalized. They are the same sizes as before. As a matter of fact, is is especially to empower inpecting officers to seize and hold lightweight cans, pending a decision as to their disposal. We have not that right under the law as it stands.

Section 5. Section 12E at present simply designates the different varieties of British Columbia salmon. As there has been and still is a more or less insistent call for the official grading of the different varieties of salmon when packed in the cans, the amendment provides for such being done if and when it is deemed necessary. Also, the amended section provides for transferring the naming of the varieties to the regulations, because of anticipated changes when grading takes place.

Section 6. Section 12F gives the minister sole power to close a cannery in the event of the provisions of the act not being complied with. That is the section as it was. It sometimes happens that an inspecting officer finds a cannery operating under such a state of filth as to call for the immediate stoppage of operations. Delays in reporting to and receiving instructions from Ottawa allow canning to go on under undesirable conditions frequently for too long a time. The amendment consequently seeks to give power to the officers to take immediate action when such conditions are discovered and, of course, to report to Ottawa.

Section 9. Section 12G is deemed to be entirely unnecessary and, therefore, apt to lead to confusion. Consequently its deletion is proposed. All that is provided for in section 12 G is already provided for in other sections.

Section 10. The proposed amendment to subsection 1 of section 12 H is, in the first place, to provide that canned fish or shellfish imported into Canada to be again exported must show the name of the country of origin, in order that they may not be mistaken for Canadian goods. In the second place it is to provide that no misleading mark or name concerning the kind or variety of canned fish or shellfish imported for sale in Canada be used. The last provision is intended chiefly to stop the practice of Alaska packers sending Alaska red salmon into Canada labelled as sockeye, as this meantime permits them unfairly to compete with British Columbia sockeyes, a much superior fish. I think that covers all the amendments.

There was considerable discussion among members as to how the amendments would operate, all of which seemed to have been satisfied with announcement of the minister that the amendments met with the approval of canners.

Fishery Act Amendment

Upon whom should rest the onus of proof in breaches of fisheries regulations, aroused some discussion in the House on June 12, when amendments to the Fisheries Act were under consideration. Hon. Ernest Lapointe, Minister of Marine, explained that the amendments are to ratify regulations already existing. They aimed to give control by legislation of fisheries both inside and outside territorial waters. A challenge of the Government's authority in respect to extra territorial waters was being made by certain fishermen, and the Justice Department recommended that this legislation should be passed.

Hon. J. B. M. Baxter objected to a sub-section privilege that the onus of proof, under the Act, should rest on the defendant.

It was too much to ask of anyone that he prove his absolute innocence to the satisfaction of some magistrates. If a man were going before a judge and jury he might be able to prove a satisfactory case for acquittal, but some magistrates appeared to take the stand that once a man was charged with an offence he was undoubtedly guilty.

L. H. Martell (Lib.,Hants) said he blushed to say that there were in Nova Scotia many magistrates who were unfit to try a case. It was going too far to place the burden of proof upon the defendant. He said he would move that the clause be struck out.

L. J. Ladner, Conservative, Vancouver North, said if the clause were struck out it would make the bill useless for dealing with certain classes of foreigners. Under some circumstances it was absolutely necessary to make the defendant prove that his intentions were lawful.

T. W. Caldwell, Progressive, Victoria and Carleton, N. B., protested that the clause was not in accordance with British law and tradition.

Hon. J. B. M. Baxter remarked that on second thought he would suggest the committee rise until there was time to go over the bill and lay down certain acts, which might be accepted as *prima facie* evidence of unlawful intent.

Hon. Ernest Lapointe agreed with the objection to placing the burden of proof upon defendants generally. However, this appeared to be a special case which must be given special treatment. Progress on the bill was reported.

Separate Department

Following is an interesting bit of discussion in the House of Commons on May 23 during the consideration of fisheries estimates:

Hon Mr. BAXTER: Has the hon. minister given any consideration to the advisability of putting the fisheries under a deputy who will have sole charge? It is a subject of very great importance with us in the maritime provinces and with our friends on the Pacific coast, and it seems to me that the country cannot give too much intensive consideration to the development of our fisheries and to the marketing of our fish. A predecessor of my hon. friend, now the Chief Justice of New Brunswick, did much during the war period to have people, as far west as Toronto at least, taught to consume more of the products of our fisheries. Fish is a good, palatable, wholesome food, and it seems to me much may be done by providing the means of transportation to bring the fish to our people inland while it is still fresh, and so teach them to rely on it as a substitute for other forms of food which are more expensive and cannot really replace fish as a diet for mental and bodily efficiency. To do that it seems to me you need to appoint an official who can devote his whole time to the fisheries alone as a separate department.

Hon. Mr. LAPOINTE: Since I have taken charge of the department I have received many resolutions from associations and individuals making the same suggestion. Of course, I have not had sufficient time to make up my mind as to the desirability of the suggested change, and, furthermore, as strict economy has to be practised, the formation of another department might involve expenditure which would not be altogether welcome. But the matter is engaging my attention.

Hon. Mr. TOLMIE: I am very glad indeed to hear that the hon. minister is interested in this subject. The fisheries on both our coasts are of great importance. As has already been pointed out, the fishermen on the Pacific coast have long felt that the fisheries there would be much more rapidly developed if a separate department were created and placed under a deputy minister. I am sure the minister will find on further investigation that the little extra expenditure required will be well spent and give excellent returns.

Hon. Mr. LAPOINTE: I must admit that this suggestion seems to have the support of all those who are interested in our fisheries.

Fish Culture

Ontario

The fishermen of Lake Huron will be interested in the satisfactory increase over recent years in the number of pickerel fry hatched out and distributed from the Dominion Government hatchery located at Point Edward.

The eggs were obtained from the commercial pound-nets. In recent years the water has remained at such a low temperature that the fish did not ripen in the nets This reason a portion of the catch of three nets was transferred to retainers that were located in the warmer water of Sarnia Bay. The results justified the change and the collection and distribution of fry was larger than it has been at any time during the last five years. Fully 14,000,000 pickerel fry were distributed in a vigorous conditions on the spawning grounds in the lower end of the Lake.

The department was successful this spring in distributing nearly 100,000,000 pickerel fry, and over 35,500,000 whitefish fry from the Fish Hatchery at Kenora, Ontario. This is the largest distribution of pickerel fry turned out from Kenora Hatchery since pickerel was first propagated therein in 1915. The best previous distribution was made in 1919, in which year over 88,500.00 pickerel fry were distributed. The number of whitefish distributed is also in excess of that distributed during the last two years.

The season's operations at the government hatchery, Wiarton, Ontario, have been brought to a successful close with the distribution of 7,500,000 salmon trout fry.

A successful season has recently been brought to a close at the Collingwood hatchery with the distribution of over seventy-two million whitefish fry, and nine and a quarter million pickerel fry.

A notable increase in the number of small whitefish and pickerel in the southerly end of Georgian Bay in recent years is attributed to the operations of the Collingwood hatchery.

Manitoba

During the season that has just been brought to a close the hatcheries located at Gull Harbour and Dauphin River distributed over 10,000,000 pickerel and 163,000,000 whitefish fry in Lake Winnipeg waters.

The beneficial results of the hatchery operations in this lake are quite apparent in the increased catch of the commercial fishermen which a few years ago was per net better than in any previous year.

British Columbia

The eyeing station for Kamloops trout eggs that was opened this season on Lloyd's Creek, near Kamloops, British Columbia, was attended with success, and over 750,000 eggs of the Kamloops trout were collected in Paul Creek, in the vicinity of the station.

After an adequate return in fry is made to the waters where the eggs were collected, the balance will be utilized in stocking other suitable waters of the district.

A successful season has been brought to a close at the Pitt Lake Hatchery on the Lower Fraser, British Columbia. Notwithstanding the conditions caused by the unprecedented waters in the Fraser River last autumn, upwards of 2,000,000 sockeye eggs were collected in this comparatively small area. Of the product from these eggs, 745,000 were distributed as free-swimming fry, and upwards of 1,500,000 have been placed in the ponds where they will be retained and fed until they are from 2½ to 3 months old.

News Notes from Far and Near

CANADIAN FISHERIES CONVENTION
Montreal, September 18th and 19th
Keep it in mind

Cheap Boxing Substitute

A substitute for cardboard and wood in boxes is a chemical composition of sawdust and ashes. The finished boxes are light, washable, sanitary and non-poisonous. They are waterproof and as fireproof as asbestos and can be made in any degree of flexibility or texture, either as hard as oak, tough as metal or pliable as cardboard. A pound of the substance from which the boxes are made costs not more than five cents.

Mackerel Visit Ancient Colony Again

Mackerel are again putting in an appearance in several places around the Newfoundland coast after an almost complete desertion of sixty-five years. Previous to that time they were almost as abundant as herring, when in 1858 they completely deserted the shores and have not been seen in any worth-while quantity since, till this season.

Champion Fish Skinner

Everett White was recently hailed as champion "fish skinner" at Gloucester, Mass. In the Independence Day fish-skinning contest, White hung up a record of 37½ seconds for skinning a five-pound cod. The previous record, was 46 seconds. White received a cup emblematic of the championship.

Had Terrible Time

By chewing raw fish and drinking water wrung out of their fog-soaked garments, two Portuguese fishermen kept themselves alive four days and four nights, during which they were lost in an open dory off the banks of Newfoundland. A third member of the tiny crew was lost overboard.

The men were taken on board the oil steamer Chiton, and landed in Montreal July 4, for this vessel picked them up about 150 miles east of Cape Race a week before.

Canned Tomatoes Travelled Far

Two cans of tomatoes put up by a well known canning company were carried to the vicinity of the South Pole in the "Fram," and were finally cached in the Antarctic regions for future use. Then they were taken by Amundsen in the "Maud." He sent them back to the New Jersey canning company, and when opened they were found to be as good as when put up in spite of all their travels.—Gloucester Times.

Mayflower Does Well

Advices from St. Pierre, Miquelon, received at Boston recently, from Captain Larkin of the Boston schr. Mayflower, stated the vessel was there for bait, having caught 100,000 pounds of fish since leaving here a month ago, and would continue fishing till the vessel was full or salt used up.

Fisherman Adrift Three Days

After having spent three days in an open dory without food, a fisherman, said to be named Peterson, and to hail from Shelburne, was picked up in a state of exhaustion in the fog off Whitehead on June 23 and brought to Canso, N.S. by the coastal steamer Chedabucto.

Boat Takes Fire

Michael Bransfield, Jr., of Hardwick, N.B., had a narrow escape June 23, while drifting for salmon in the Miramichi Bay. His boat took fire and burned to the water's edge. Other fishermen saw the flames just in time to save him.

Place Doesn't Agree with Shad

Each year a bank of dead fish piles up along the shore of Lake Ontario. This year it was alarming in its extent. Officials are much puzzled over the heavy death rate and it is said to be 31 years since anything like it occurred before. The ill-fated finny tribe are shad and are therefore not quite at home in fresh water. They were introduced into Lake Ontario in 1873 as a food fish but have been little used for that purpose as they seldom grow more than ten inches long.

Makes a Monkey of Himself

Further proof that man is a descendant of some sort of animal is established by the following facts: Man has calves in his legs, frogs in his throat, swallows in his neck, hare on his head and bull right on the end of his tongue.—Exchange.

Schooner Total Loss

The three-master schooner Win The War, of Lunenburg, is a total loss at Bon Portage Island, near Shag Harbor, Shelburne County, according to word at Halifax, July 6. The Win The War was bound from Boston for Lunenburg in ballast, and went ashore during the fog on Monday. Her crew were saved. The vessel registered 149 tons net, and was built at Liverpool in 1917. Captain Kenneth Iversen, Lunenburg, recently purchased her.

Lobster Season Extended

With a view to ameliorating the condition of unemployment, the lobster fishing season on the east coast of Cape Breton was extended to the 15th of July. This was the second extension of the lobster season made on this part of the coast this summer by the fisheries department, Ottawa.

Butter from a Fish in B. C.

Butter from a fish sounds ridiculous, but it is true. In March the oolichan, or butter fish, comes in from the Pacific Ocean and swims up the freshwater rivers of British Columbia to spawn, and during the three weeks of its visit the Indians levy such a toll on the immense shoals that they get a full year's supply of the fat which serves them as butter. Having spawned, the butterfish vanishes, but, unlike salmon, it does not die.

Will Take a Wife

Captain Magnusson of the steam trawler Rayand'or is on a vacation to the Old Country and he has informed his friends that when he returns about the middle of August he will be no longer a single man.

Cannery Men Strike

Demanding an increase in the price paid for sockeye salmon by Rivers Inlet cannery men, white and Indian fishermen employed by the eleven canneries there went on strike, and additional police were being sent into the district, according to information received at Vancouver June 28. The present price paid for salmon is thirty cents, and the fishermen are demanding fifty cents a fish. The fishermen eventually accepted the canneries' terms.

Trawler Lands Mackerel Fish

The Maritime Fish Corporation's trawler, the Rayand'or, Capt. Magnusson, put into Gloucester the latter part of June with 130,000 pounds of fresh mackerel and struck the market when prices ranging from ten to twelve cents a pound were obtaining.

Line Proposed to Connors Bros. Plant

An agitation has been going on for some time in New Brunswick for the construction of a line of railway from Black's Harbor, one of the deep water harbors of the Bay of Fundy coast, in Charlottetown county, to connect with the Shore Line division of the C. P. R. at Peenfield. It is learned now that surveys for the road are to be made at once and Lewis Connors, president of Connors Bros., fish canners, has engaged A. E. Hanson, civil engineer in connection therewith. Recently representations were made to the provincial government by a Charlotte county delegation for the guarantee of bonds by the province with the understanding of the ultimate operation of the road by the C. P. R. Premier Foster, however, did not appear to regard the proposal with enthusiasm.

A Peculiar Fish

The Dutch fishing drifter Adriaan (Schweningen) — skipper Jan Gelderent—recently reported a very peculiar occurrence. While engaged fishing in 33 east 57.50 north —off the south coast of Norway—the crew were awakened by a strange noise, apparently alongside the ship. The noise resembled a moan and ended with a shrill whistle.

Somewhat alarmed, the whole crew "turned out," but the night was dark and nothing could be seen. The noise continued, however, and when daylight made it possible, the crew were astonished to see a large fish—some eight feet long and with a girth of about three feet and a half —about a yard from the vessel.

The fish had a ball-shaped protruberance at the back of its head, but none of the crew was able to discover any trace of eyes. It was bright yellow in colour, and had a tail shaped like that of a halibut. Herrings were thrown to it, but it paid no attention, but it devoured the waste oil which the engines gave off when they were started.

The fish remained with the vessel—always about a yard distant, moving when the vessel moved, and remaining stationary when the vessel hove to—for nine nights and days, but on Thursday, before reaching Lerwick harbour, a thick fog came down, and the fish and the vessel parted company somewhere, near Mousa (a few miles from Lerwick harbour), the fish having thus followed the drifter all the way across the North Sea.

Ford's Fish Catch

The McManus designed schooner Henry Ford, Captain Morrisey, built as a possible challenger for the International Fishermen's Trophy, held by the Canadian schooner Bluenose, landed her first fare, consisting of 2,000 pounds of halibut, at North on June 20.

Handle 1,500,000 lbs. Mackerel

It is estimated by persons competent to know, that the National Fish Company handled 1,500,000 pounds of fresh mackerel during the spring run. The amount of money spent by this firm in wages and other disbursements total a considerable sum. Taking the case of the quantity of new barrels necessitated in the shipment of the fish it may be stated that one Chester cooper alone supplied 6,000 new barrels. The receipts of mackerel Tuesday were the smallest since the season opened, not amounting to 2,000 pounds, which came up from points along the shore in motor craft. The National Fish Company's steamer Lemberg. Capt. Hanson, which left here with 150,000 pounds of fresh mackerel, arrived at Morton on Monday.—Halifax Herald.

Shad Fishing Permitted

Notice was given in June by the Department of Marine and Fisheries that the regulations for the province of New Brunswick have been amended to authorize shad fishing in the tidal portion of the Bay of Fundy and its tributary waters, above a straight line drawn from the southern end of the boundary line, between the counties of St. John and Albert, N.B., to Cape Chignecto, Cumberland County, N.S., and above a straight line drawn from the said Cape Chignecto to Longpoint, King's County, N.S., from 16th day of June to the 15th day of August, following, in each year, both days inclusive.

On Booze-Fishing Trip

With forty-eight ten gallon kegs of Demerara rum in her hold believed to have been taken aboard at St. Pierre the small auxiliary schooner Annie B., which left Halifax "on a fishing trip", failed to make a successful run into Halifax Harbor Saturday morning. Between one and two o'clock on June 17, as she was proceeding up the harbor she ran foul of a party of Customs officials, who apparently were in waiting for her, near the "Hen and Chickens" buoy, off Point Pleasant, with the result that she is now held at the Dockyard and her overproof rum is resting within the caged detention room in the Customs House. The value of the rum is about $5,000, according to prices paid in St. Pierre, but when retailed it would probably be worth $15,000.

Trawlers Destroy Fishing Gear

Fishing skippers returning from the Grand Banks report that French steam vessels are dragging their beam trawls through the gear of Newfoundland fishermen, causing considerable damage. Rrepresentations should be made to the British government, the Trade Review adds, with a view to having the promotion of an international agreement which will prevent the beam trawlers fouling the gear of other fishermen on the neutral grounds of the Grand Banks with impunity. The United States Government would doubtless assist in the promotion of such an international agreement because American Grand Bankers are liable to similar interference and loss, the Trade Review further says.

Catching Sea-Turtles

Green sea-turtles, the raw material for turtle soup and tortoise-shell eyeglasses, are caught in the Gulf of Lower California, where they abound, by stretching strong rope nets of 19-inch mesh across the mouths of small lagoons just as the tide starts to go out. The turtles drift in with the tide, and as it ebbs they are entangled in the nets, says the Popular Science Monthly.

From the nets small fishing vessels carry them to a larger, specially constructed vessel lying further out at sea, where the turtles are placed on their backs on racks, to lie helpless until they reach the cannery. Here they are placed in shallow pens that keep them fresh until needed.

One of the principal canneries slaughters about two tons every day. The size and weight of the turtles is so great, that overhead conveyors, inclined runways and similar equipment is necessary for handling the carcasses.

Turtles are extremely difficult to kill, not so much because of their protective shell as because of their extreme tenacity of life. Incidents have been reported where a turtle's head that had been severed from the body for nearly twelve hours closed its jaws upon a man's hand. The explanation is thought to be that practically all the turtle's movements are so-called "reflex actions," in which no higher nerve centres are involved. In consequence, individual muscles sometimes continue to function long after life appears to be extinct in the body as a whole.

100-Year-Old Sturgeon

Fish stories are naturally looked for at this time of the year and sometimes strong evidence is required in their support. Frank Lapointe, a Sault Ste. Marie Fisherman, brought his evidence to Toronto, where everybody could see it, in the shape of a monster sturgeon weighing 310 pounds, caught at Batchewana Bay on June 29. There was a tentative move to have the fish preserved for Canada's museum, but nothing seems to have come of it, and Lapointe finally sold it to a New York firm, realizing $279.00 for it. Experienced fishermen were of the opinion that the sturgeon was about 100 years old. It was eight feet in length. Dr. Ida Secretan, of Toronto, did not get quite so big a fish as this. But she did land a maskinonge weighing 17½ pounds while fishing in Pigeon Lake, Coboconk. She did it without the assistance of any other member of her party.

Express Classification Questioned

Judgment was reserved by the railway commission recently in an application made by W. R. Spooner, fish agent of Montreal, who asked for a revision of express classification on shipments of fish, so that they would be delivered by the express companies to different persons, though shipped to the one consignee.

A complaint has also been made by the Connecticut Oyster Company, Limited, of Toronto, upon which judgment has been reserved by the Railway Commission. Oysters in glass jars are classified in the Canadian classification as first-class. The company asked for a change to second-class, which they asserted was the American practice. Express companies claimed that as the oysters were shipped in glass they were properly subject to first-class rates because of extra care necessarl.

CONVENTION OF REFRIGERATING ENGINEERS

The dates for the thirteenth annual convention and exhibition of the National Association of Practical Refrigerating Engineers have just been announced. This important convention will be held on November 1, 2, 3 and 4, 1922, at the Planters' Hotel in St. Louis, where the entire second floor of that well known hotel, which is one of the largest in St. Louis, has been engaged for exhibition and meeting purposes.

The National Association of Practical Refrigerating Engineers is an Association composed of chief and operating refrigerating engineers, for the purpose of further educating the members of the profession in the art and science of refrigerating engineering.

The National Educational and Examining Board of the Association, after much labor, several months ago commenced to furnish the members with a lecture course on the fundamental principles of refrigeration. The lecture course is in twenty-two parts and is conceded by many of the best minds in the profession to be the most complete of anything ever written on the subject. This, along with the other educational features offered by the association, is available only to members.

The cost of joining the Association is so small that every refrigerating engineer should become a member. The initiation fee is only $5, and the dues at the rate of fifty cents a month. For further particulars we are pleased to refer you to Edward H. Fox, Secretary, 5707 West Lake Street, Chicago, Illinois.

Investigating Currents

The Biological Board of Canada began in 1919 a series of experiments with drift bottles for the purpose of detecting the most constant currents of the Bay of Fundy Some of these bottles went across the Atlantic and were picked up at the Azores, around the British Isles, and within the Arctic Circle at the north of Norway. The international committee on deep sea fishery investigations has arranged for an extension of these experiments up and down the Atlantic coast. Newfoundland, Canada and the United States will co-operate in a common plan which involves the setting adrift this summer of over 3,000 bottles along seven lines.

Each bottle contains a postcard, for the return of which a reward is given. It is expected that evidence will be obtained for or against the belief in there being along Canada's shores an Arctic current that keeps the climate cool.

The Dried Fish Markets Of Italy

Mr. W. McL. Clarke, Canadian Trade Commissioner in Milan, has forwarded under date 19th April, 1922, a letter from one of the principal importers of dried fish in Italy, who states that an event of some considerable importance has taken place in the Norwegian dried fish industry, which has a direct bearing on the Italian market for dried fish. This importer writes as follows:—

"A fact of great importance has taken place during the past weeks, viz., the sale made by Norway to Russia of 400,000 quintals of klipfish in salted condition. As klipfish constitutes a serious competitor in Italy against other qualities of hard dried fish as Icelandic small cod, shore fish, Gaspe fish etc., it is evident that the great reduction in the quantities of klipfish available in Norway for the Italian market will mean a considerable chance of business for the Canadian exporters."

PACIFIC COAST SECTION

Fisheries Royal Commission Named

Announcement is expected from the Dominion government very shortly as to the composition of the parliamentary royal commission to investigate British Columbia fishery matters. It is expected that the committee will be under the chairmanship of William Duff, M.P., chairman of the marine and fisheries standing committee. There will likely be three additional eastern members and four western members. It was announced at Vancouver that the meetings were due to commence there July 19 but it will likely be well on in August before the commission begins operations.

Many problems of an extremely important character are awaiting the attention of the investigating committee, chief among which is the influence of the Orientals in the Pacifc fishing industry. The proposed embargo on raw salmon is another issue demanding consideration. These are of some of the major matters, but the commission will find that there are numerous others of a lesser order that are deserving of close consideration.

The appointment of the royal commission is regarded with favor, but it is hoped it will not prove to be a mere political move to quiet British Columbia protests for the time being. The western province is eager to have the commission visit the coast and see and hear its problems first-hand, but if the investigation is to end there we cannot hope for much. What the industry expects from the commission is a report to the government based on the evidence it will see and hear. Not only that, but it expects the government to act on the report.

On the other hand let the industry take advantage of the opportunity afforded to present all its problems, and to present the real facts. Any disagreement or ill-feeling among various interests may tend to confuse the commission and may result in a report adverse or, at least, unsatisfactory to all. Let minor misunderstandings be set aside and let the commission be presented with non-contradictory evidence.

The personnel of the commission has since been definitely fixed. William Duff, Liberal member for Lunenburg, is chairman, and others are A. W. Chisholm, liberal member for Inverness, N.S., L. H. Martell, liberal member for Hants, N.S., Alfred Stork, liberal, Skeena, B.C., A. W. Neill, independent, Comox-Alberni; Hon. H. H. Stevens, conservative, Vancouver centre, and C. H. Dickie, conservative, Nanaimo.

Japanese Competition

Salmon packers from Puget Sound, Vancouver, Victoria, and Northern British Columbia met at Vancouver, B.C., recently to compare the qualities of Japanese-Siberian salmon with those of Alaska, Skeena, Naas, Rivers Inlet, Puget Sound, and Fraser River Canneries.

During the past couple of years the Asiatic goods have been going heavily into the British market; and no careful comparative test was ever made before. The result of the investigations of the packers was that the North Pacific American and Canadian canners had nothing to fear from the quality of the Asiatic commodity. It was not so firm, its oil was good, but not superior, it possessed a different odour, and some cans indicated that the fish had been carried long distances before going into the cans.

Japan, according to recent reports from the Canadian Trade Commissioner in Yokohama, is putting up an increasing pack every year and is becoming a formidable competitor in the British salmon market.

Close attention is being paid on this coast to the development of the Japanse-Siberian fisheries. It is understood that the fish are taken for the most part along the shores of northern Saghalien and at the mouth of the Amur river. The season apparently lasts from June to September, which is about the same as the season on this coast. As in British Columbia waters, there are several varieties of salmon caught in Japanese waters. They are known as Humpback, Dog, King, and Silver. The average catch at present is said to average from 70,000,000 to 75,000,000 equal to about 150,000 tons. Seventy-five per cent. consists of Dog salmon and 20 per cent. of Humpback. At present the largest part of the catch is salted for the Japanese market, but exports have increased greatly in the last few years. For instance, in 1913, 120,000 cases were produced, while in 1917 the total was 750,000 cases, of which 277,000 tins were exported, Great Britain taking 191,000 dozen, valued at 382,000 dollars.

The extent to which Japanese fishermen have gained a hold on British Columbia fisheries is shown by the fact that their nationals have shipped from this coast many thousands of boxes of Canadian salted salmon during the past year. The fish are caught in British Columbian waters by Japanese fishermen who salt and ship them, in Japanese ships, to their connections in Japan. Some of the shippers are able to visit Japan once a year, going over in November or December, selling the cargoes they have brought with them. They remain for a prolonged holiday in their native land and then return to this side of the Pacific to prepare for the following year's shipments. The Canadian Trade Commissioner reports that one Japanese arrived recently in Japan with 1,500 cases, approximately 300 tons, of salted salmon. This he sold for 72 yen a case and returned to Vancouver.

Will Kill Sea Lions

When the Government patrol steamer Givenchy left Vancouver for the north recently, she carried machine-guns for service against the sea lions, marauders of salmon and smaller varieties of fish. The campaign is to be waged on rookeries on the islands off Smith's and Rivers Inlets and commences about the time the baby sea lions are able to scramble for the water. There has been a considerable increase in the population of the northern rookeries lately, and when the machine-guns get into action a massacre may be expected. On the Fraser River a Japanese was recently employed by fishermen to kill sea lions with a shotgun, and he accounted for nearly a hundred.

Salmon and Herring Fees Revised

A resolution proposed by Hon. Ernest Lapointe, Minister of Marine and Fisheries, which revised the fees in connection with salmon curing, and provided a new scale of fees for establishments engaged in the dry salting of herrings, was put through all its stages and the bill based thereon was likewise put through all its stages in the House of Commons June 15. Some doubt was expressed by A. W. Neill, Independent member for Comox-Alberni, in regard to the provision exempting from the payment of fees, the dry salting operations of a cannery engaged in canned or pickled herring industry. On being assured that the exemption applied only to canneries engaged in the canning of herring, however, he waived his objections and allowed the measure to pass.

Privileges Are Renewed

The Canadian government has recently issued an order-in-council, under which the privileges granted to American fishing vessels in British Columbia ports are renewed for the year 1922. Under this order, foreigners or foreign corporations bringing fresh fish in American vessels to British Columbia ports are permitted to land such fish free of duties, and tranship in bond to the United States, or to sell such fish in bond for export, or to sell the fish for Canadian use on payment of duty. They are also permitted to buy bait, ice and supplies, and ship crews; and to purchase bait ice in a British Columbia port before landing fish upon undertaking that catches of fish with such bait shall be landed at a port on the mainland of British Columbia.

F. E. Burke Leads C. M. A.

F.E. Burke, of the Wallace Fisheries, Ltd., Vancouver, B. C., has been elected president of the British Columbia branch of the Canadian Manufacturers' Association, in which capacity he will have an opportunity to do important work for the advancement of the industries of the province.

Oriental Immigration

From *Hansard* June 17:

W. G. McQUARRIE (New Westminster): May I be permitted to ask the Prime Minister if he will make an announcement before the House prorogues as to the Government's policy regarding the effective restriction of oriental immigration, and also as to the result of his negotiations with the Chinese Ambassador, who was lately in Ottawa, and with the Japanese Consul General?

Hon. MACKENZIE KING: I may answer my hon. friend at once that the policy of the Government is to bring about effective restriction. As these negotiations have not yet been concluded, I doubt whether it will be possible to make an announcement to the House before the session is over.

Spring Salmon Scarce

The run of spring salmon on the west coast of Vancouver Island this year has been disappointing. The first of the season there was a very good spurt of fish but since then there has been a very light run and no money has been made either by the fishermen or the canners.

Mild Cure Pack Good

It is reported that the mild cure pack of spring salmon will be fairly good when the total is finally made. This means that in Northern B. C. there have been more springs than in the south of the province.

Salmon for "Hot Dogs"

A Vancouver Island salmon packer tells of mild cured salmon being used as filling for "fish hot dogs" and sold to workers in industrial cities in eastern United Ga between-meal delicacy and gaining great popularity a between meal delicacy and gaining great popularity with workers who receive small wages and cannot afford elaborate lunches.

If this is the case there must be some other filling in the "fish hot dogs" as mild cured salmon have been selling at wholesale round 25 to 30 cents per pound f.o.b. the Pacific coast. However, if fish is being made into "hot dogs" there is one outlet for this variety of food and no one will gainsay the kind of fish as long as a new use is found for the finny food. In British Columbia fish sausage has been made for several years but of course the market is limited here in comparison with the eastern market.

R. C. M. P. Arrest Fishermen

There was a reduction in the number of Japanese fishing licenses in British Columbia this year. When some of the Japs on the West Coast of Vancouver Island heard of this they were somewhat indignant. As a result a Japanese paper published a bulletin telling the disgruntled fishermen to fish outside the three mile limit.

The fishermen, however, reckoned without Major Motherwell, Chief Inspector of fisheries for British Columbia, who as soon as he heard that unlicensed boats were fishing got in touch with the R. C. M. P. who immediately sent constables on the job. In their usual businesslike way they went fishing themselves to secure the evidence and as soon as they had it they began rounding up the Japs. After they had all the boats they could handle they instructed the Japs to speed up for Port Alberni but this the prisoners refused to do.

There was some show of rebellion and one of the fishermen was dipped in the briny until he cooled off; then they refused to start up and the constables said: "All right, you won't get fed." This lasted twenty-four hours when the prisoners decided they would like something to eat and all went well thereafter. Major Motherwell and the R. C. M. P. are being praised for their prompt and effective rounding up of the law-breakers.

The Salmon Pack for 1922

It is yet too early to give anything definite in the way of an estimate of what the salmon pack will be in 1922, but in the Northern Districts of the Province there is a very good outlook for a fairly good year. The Fraser will probably be small but as it is too early for the run there no one can tell what will happen.

The Naas has had a very good season so far and the Skeena is very good. Rivers Inlet and other districts South of the Skeena have not begun to show what the results will be. The strike at Rivers Inlet may and may not make a difference with that section.

In interviews with different cannerymen your correspondent finds a general feeling that if they get a fairly good run this season the industry as a whole may average up fairly well with the past three years' poor and unsatisfactory markets which it has experienced.

There is nothing to be said as to prices as they are more or less in the air at the present time.

Crab-Canning Growing Industry

Process of preserving delicious crustacean described — Supply of raw material plentiful and demand slowly increasing

BY G. S. FITZMAURICE

In Prince Rupert, B. C., Daily News

Despite the fact that the fish packing business is decidedly one of the most important industries of this province, British Columbia being justly famous the world over for its canned salmon, it is surprising what a comparatively few people there are right in the district where the fish are put up, who have actually seen the entire process of putting up a can of fish and learned the life story of the finny denizen of the deep, in its somewhat chequered career so to speak, "from the cradle to the grave."

Up to the present, although there are a great number of varieties of fish to be found in the waters of the Pacific Coast practically the only fish that are marketed in any appreciable quantity, are salmon and halibut. Within the last couple of years, however, the putting up of crabs in cans for the world markets has been successfully launched and it will not be very long before canned crab will be well known as a delectable delicacy, vying with canned lobster in its popularity amongst picknickers and those addicted to late and recherche little suppers after the theatre or opera.

Saw it in Process

The writer being at Naden Harbor, which is situated on the Northerly coast of Graham Island, the largest of the group of Islands knows as the Queen Charlotte, was fortunate enough to be able to spend a day at the cannery located there, which puts up the famous "Naden Brand" of crab meat. He was also in luck that the day of his visit, a full day's pack was in process of being handled. It might be of interest to a number of people to read an eye witness' description of the whole proceeding.

In the first place of course, it is necessary to catch your crab. At the time of the writer's visit, about ten men (Indians) were attending to this, necessarily the most important part of the whole business. They are the fishermen. They use crab pots and hoop nets, two distinct ways of luring the wily crab into their clutches. Crab pots of course are similar to the lobster pots used on the Atlantic and in Europe. It is a case of "it's easy to get in but quite another question when it comes to getting out."

The Nets

Hoop nets are cone shaped nets attached to a hoop of half inch round iron, which are sunk to the bottom with a bait reposing enticingly in the net. A float attached by a line to each net denotes the location. In some cases the fishermen place the pots and hoop nets in circles and in others in straight lines, the latter being the most usual way. Each fisherman has a string of pots and nets and goes backwards and forwards lifting them to the surface to harvest his crop.

On the particular occasion being described, the day's catch consisted of 1600 crabs, which were piled on the cannery deck by 8 o'clock in the evening. Now a start is made in preparing the crabs for the pickers and packers, who commence work at 8 o'clock the following morning.

First Cooking

First process; plunging the live crustaceans about 130 at a time in iron crates, into vats of boiling water, which partially cooks them, as they are kept in the water for fifteen minutes. Upon being taken out, they are washed and cooled under a stream of ice cold water. Next the crabs, which by now have assumed a bright red color, are dismembered, the legs and claws being placed in piles on tables ready for cracking, the bodies being washed and placed on draining tables. This finishes the evening's operations, and now all is ready for the workers the next morning.

Eight a.m. has arrived, and the first on the scene are the "crackers," Indian men and youths, five in number, to crack the legs and claws. Interesting data may here be given, to show at what speed the men can work; each crab has eight legs and two claws, and these five men and boys cracked 16,000 actual limbs by 12 noon, an average of 800 per hour per man. Each limb requires five actual operations if there are no misses. Taking it up, delivering three blows, and placing it again on the pile, which means 4000 actual operations per hour.

Skill Required

The instruments used for cracking are small lignum vitae mallets. The blows have to be gauged so accurately, that when a change was made from the ordinary wooden mallets to the lignum vitae ones, it takes the men several days to get on to the exact strength of the blow required with the new mallets. At 8:30 the pickers start on the limbs and bodies. They average from 9 to 10 pounds per hour. Half an hour later the fillers commence putting the meat into the cans.

One must dwell for a moment here to describe this filling of cans which is a most delicate and particular performance. There are five distinct operations. First a piece of oiled paper is placed in the can, then a layer of legs or claws, the centre is filled with a piece of the body of the crab, and another layer of legs or claws is placed on top. The paper is then folded nearly over the contents ready for the lid to be put on.

Domestic Science Kitchen

The cannery by this time has begun to assume more the appearance of a Domestic Science kitchen, than the ordinary fish cannery. The girls are all neatly dressed in blue frocks and white aprons, the tables and fish trays are all spotlessly white and clean and all the metal utensils shine brightly. By 11 o'clock the first batch is ready to start to run through the exhaust box to take the air out, and from there, are carried along on carriers to the double steamer, when they are ready for the final cooking in the retort.

During the noon hour the picking and filling tables are scrubbed and cleaned with boiling water. At 1 o'clock the pickers and fillers return to finish their work; it takes the former until between 3 and 4 and the latter until around 5.30 before they are through.

Last Act of Drama

The last act of the drama is the placing of the cans which are on trays containing five or six dozen each, piled one on top of the other on little trucks, in the retort for cooking, which takes some three quarters of an hour. This marks the finish of the crab's hectic career, since it fell for the fisherman's wiles, until the can is pryed open by some hungry mortal who is figuring on a particularly juicy and succulent tit-bit.

After the last can is filled, the busy hive becomes deserted, only one or two helpers remaining, who thoroughly wash and scour the whole plant, ready for the next delivery of crabs from the fishermen. Dutch cleanser, salt, and the steam hose play an important part in the cleaning up operations.

No Orientals

Altogether the whole process of the putting up of the fish is most interesting and illuminating. No Orientals whatever are employed, the work being done almost entirely by Haida Indians, who as everyone knows are the aristocrats of the native population of the north. They are well educated and highly intelligent people, who speak excellent English. At present the number employed are in the neighbormood of 30, with only a very few whites. The payroll is quite a consideration, coming as it does in the off months between October and May.

It is the intention of the company later if possible to employ entirely white help, they having in view inducing immigration to the island of families of fisher folk, either from the Atlantic seaboard or the Old Country.

CALIFORNIA HAS BIG SEA FOOD MERGER

To give an idea of the development in the fish canning business in Southern California during the past few years the recent merger of several firms into what will be known as the VanCamp Sea Food Company Inc. embracing assets of four large companies aggregating $5,000,000 is a good illustration.

This will insure a nation-wide exploitation of Southern California sea foods. The merger was not made simply with the idea of economy of plant operation but also with the idea of standardization of pack of tuna and sardines. It is a big step forward and Southern California sea food development will be watched with interest.

SERVICE IN FISHERIES DEPARTMENT

Those cannerymen who have been in the Northern British Columbia district for many years will miss seeing Inspector Williams as they have in the past twenty-seven years. Inspector Williams has had a long and faithful career with the Fisheries Department in British Columbia and well leserves his superannuation.

District No. 2 of which Inspector Williams was head included the Skeena River, Naas River, Rivers Inlet and Bella Coola. It also included the halibut fisheries by both Canadian and American trawlers.

Mr. Williams was one of the commission which was appointed at his suggestion to investigate the salmon fisheries in Northern B. C. and he with John P. Babcock were on the commission which came to be known as the Williams-Babcock Boat-Rating Commission, as they in their finding limited the number of boats to each cannery.

Mr. Williams has been superannuated at his own request and will be missed by his associates and the fishermen and canners alike as he has always played fair and is well liked by all.



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(Continued from page 147)

Mayflower, and stand a fair chance against her in moderate winds. And if the races should turn out this year to be drifting matches—well, victory under such circumstances is a matter of luck.

Of course the Mayflower may not be the challenger, as she will have to meet in the American elimination races the two schooners built at Essex, Mass., last winter, both of which are reputed to be craft of exceptional calibre. The Puritan was built especially to uphold the honor of Gloucester, and her owners are no doubt as keen to have her beat the Boston-owned Mayflower as to have her win the international trophy. She is owned by a syndicate of race enthusiasts which had its inception at a meeting of Gloucester men at Halifax, following the victory of the Bluenose over the Elsie. She was built by F. J. James & Company of Essex, Mass., from designs prepared by Burgess, and it is expected that she will be sailed in the elimination races by Captain Jeffrey Thomas. Slightly smaller than the Mayflower, also a Burgess model, she has the general characteristics of the Boston flyer, and is said to be even finer in appearance than the larger craft. She has high, slack bilges and a whittled-away stern, which gives her long clean floors. She is not expected to do as well as the Mayflower in a thresh to windward, but old salts believe that off the wind she may be the faster of the two, as her long bottom and chopped-off tramsom are calculated to ease any tendency to gripe and drag her rudder.

Henry Ford Possible Contender

The other possible challenger, the Henry Ford, built by A. D. Story of Essex to the design of Captain T. F. McManus, is a handsome craft, and believed to be abler than either the Puritan or Mayflower.

She has the general characteristics of the Mahaska of Lunenburg, and is about the same size. Her bilges are harder than those of the Puritan, and her after-body has proportionately more beam. She has less rake to transom than the Mayflower. Her general appearance suggests power rather than grace, and she is not overcrowded with canvas. Apparently she would carry sail with the best of them, and the opinion is freely expressed that in heavy weather she would outmatch the Burgess boats.

The McManus vessel, however, began her career with a bit of bad luck, and luck counts a lot in the life of a ship as well as of a man. At her launching she ran aground, and was high and dry for a number of ebb tides. Apparently she did not sustain any material damage; but her voyage to the banks was delayed. However, the International Committee have decided that she is eligible for the international races, as her delay in sailing was due to an accident.

If the Henry Ford wins the American elimination race and is selected as challenger she will enter the international races under the command of a native of Nova Scotia, Captain Clayton Morrisey, a man who was master at twenty-five, and who has long been known as one of the most successful fish killers out of Gloucester.

Although the Bluenose now holds the cup it is not necessary that she should defend it in the international races this fall. Just prior to the races the cup is returned to the trustees. Probably the successful contestant in the Nova Scotia fishermen's race which will be held off Halifax this fall will be selected to defend the cup against the Americans. This may be the Bluenose, the Mahaska, or some other craft.

How The Vessels Compare

The proportions of some of the possible entries in the final events are interestingly compared:

	Mayflower	Bluenose	Canadia	Mahaska
	ft.			
Length over all	143	141	138	131
Waterline	112	110		108
Beam	25.9	27	25	25.8
Depth of hold	11.9	11	12	11.6
Depth of keel	16.10			
Bowsprit	14	17.5	13	12
Mainmast	100	96	93	90
Mainmast above deck	88		81	
Foremast	83	79	71	78
Maintopmast	52	53.6	52	48
Foretopmast	42	48.6	43	40
Mainboom	72	81	84	72
Maingaff	45	46	50	45
Foreboom	39	33	32	30
Foregaff	34	33	50	30.
	sq. ft.			
Mainsail	4.292			
Maingafftopsail	700			
Foresail	1.832			
Foregafftopsail	520			
Staysail	1.025			
Jumbo	715			
Jib	870			
Jibtopsail	750			
Total Sail area	10,707	10,937	10,546	

Since the writing of this article, the Puritan, Gloucester's pride, built at a cost of $38,000 to uphold the honor of that port, has been wrecked. On the night of June 23 the vessel ran ashore on Sable Island sand bars and very soon pounded to pieces. It was first feared that her entire crew of sixteen was lost but on Monday the schooner Coral Spray reported having fifteen survivors on board. The only one lost was Christopher Johansen who was drowned when his dory capsized.

The Puritan was launched only last spring and was looked upon as a likely opponent to other American aspirants. She was on her third fresh halibuting trip when she grounded and en route from Gloucester made a record run to Booth Bay where she took on ice and left for the banks on June 19.

The vessel was insured for $33,000 so the monetary loss to the owners will not be severe. Naturally the people of Gloucester feel the matter keenly as they were anticipating a great deal from her in the fishermen's races. Canadians, too, are sorry that such a worthy contender has passed out.

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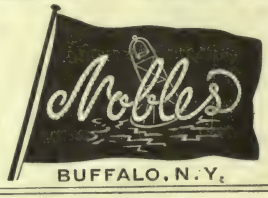
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VOL. IX GARDENVALE, P. Q., AUGUST 1922 No. 8

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A Monthly Journa devoted to the Commercial Development of the Fishery Resourses of Canada. and Technical Education of those engaged in the Industry.

VOL. IX GARDENVALE, P. Q., AUGUST 1922 No. 8

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SUBSCRIPTION

Canada, Newfoundland and Great Britain - $2.00
United States and Elsewhere - - - - - $3.00
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Published on the 24th of each month, Changes of advertisements should be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. HARPELL, President and Managing Director,

GARDEN CITY PRESS, Gardenvale, Que.

Telegrams and Express - - - - Ste. Anne de Bellevue, Que.

Eastern Manager, A. S. Christie, Gardenvale, Que.

Western Manager, H. W. Thompson, Aladdin Building 208 King St. W., Adelaide 3310

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While the maturing bonds will carry interest to 1st December, 1922, the new bonds will commence to earn interest from 1st November, 1922, GIVING A BONUS OF A FULL MONTH'S INTEREST TO THOSE AVAILING THEMSELVES OF THE CONVERSION PRIVILEGE.

This offer is made to holders of the maturing bonds and is not open to other investors. The bonds to be issued under this proposal will be substantially of the same character as those which are maturing, except that the exemption from taxation does not apply to the new issue.

Holders of the maturing bonds who wish to avail themselves of this conversion privilege should take their bonds AS EARLY AS POSSIBLE, BUT NOT LATER THAN SEPTEMBER 30th, to a Branch of any Chartered Bank in Canada and receive in exchange an official receipt for the bonds surrendered, containing an undertaking to deliver the corresponding bonds of the new issue.

Holders of maturing fully registered bonds, interest payable by cheque from Ottawa, will receive their December 1 interest cheque as usual. Holders of coupon bonds will detach and retain the last unmatured coupon before surrendering the bond itself for conversion purposes.

The surrendered bonds will be forwarded by banks to the Minister of Finance at Ottawa, where they will be exchanged for bonds of the new issue, in fully registered, or coupon registered or coupon bearer form carrying interest payable 1st May and 1st November of each year of the duration of the loan, the first interest payment accruing and payable 1st May, 1923. Bonds of the new issue will be sent to the banks for delivery immediately after the receipt of the surrendered bonds.

The bonds of the maturing issue which are not converted under this proposal will be paid off in cash on the 1st December, 1922.

W. S. FIELDING,
Minister of Finance.

Dated at Ottawa, 8th August, 1922.

-:- EDITORIAL -:-

JAMES H. CONLON, Editor

CONVENTION IS POSTPONED

We regret exceedingly having to announce to members of the Canadian Fisheries Association that it has been found necessary to postpone the convention which had been planned for September 18 and 19, until May or June of next year. We are sorry to convey this disappointment but we assure members that there were excellent reasons for the course taken. At the next general gathering of members there are some exceedingly important issues slated for discussion and in view of the fact that a large portion of our members could not, at that particular period of the year, spare time from their business, it was found advisable to postpone the event and assure a representative gathering, rather than to hold the convention as proposed with an unrepresentative attendance, no matter how large or how enthusiastic. After all we have serious business to attend to and such matters as the above must be considered. The entertainment our good friends in Montreal were preparing will keep. It will not be depreciated by delay. Every day letters have been coming to the chairman of the convention committees promising material assistance or guaranteeing attendance. It would have been possible to proceed on assurance of success from the standpoint of numerical attendance, but, as we have said, that is not everything. Next spring we confidently anticipate numbers, representativeness, enthusiasm, pep, ginger and zip, and, socially, a pippin of a time. Here, you know, we must say serious things, but we assure you you will not have to pull long faces.

Now is the time to prepare for the meeting next year. Definite dates will be fixed before the end of this year to give every one of the members a chance to arrange his business so that he can attend. You will have no excuse that you were rushed into a decision.

MUST CONSIDER FUTURE RACES

While the Mayflower of Boston, deprived of the right to participate last year, has been adjudged eligible to contest the American elimination races during October, there is still uncertainty as to whether the Dennis race committee will allow it to compete in the international events, assuming that it should be selected to represent the United States. Because of this uncertainty and the apparent unwillingness of the race committee to voice a decision, there is a chance that the Mayflower will withdraw altogether.

The entries so far accepted for the American elimination races include the Elizabeth Howard, rejected last year by the committee, the Henry Ford, always in trouble, the Yankee of Boston and the L. A. Dunton of Boston. It is safe to say that the winner of the elimination races will be chosen by the American race committee to meet the Canadian contender but the matter of eligibility is not in the hands of the American race committee, but in those of trustees of the trophy. It cannot be considered unreasonable, therefore, that American aspirants for the speed trophy should demand a ruling as to whether or not they may enter the finals. That is their goal and if they are to be balked after winning in the preliminaries, they will have been put to a lot of unnecessary expense and trouble.

Whether or not the Mayflower should be permitted to race is still a question. She has without doubt proved herself to be an able fisherman and in that respect quite within the terms specified by the donor. His object, patently, was to improve the class of vessel fishing on the banks. If it has sacrificed nothing in seaworthiness, in accommodation for fishing, then the Mayflower as an improved fisherman owes its existence to the trophy and is actual proof that the contest would produce a superior class of craft.

But there is another angle from which the situation may be viewed. It has been pointed out time and time again that Canadian fishermen must be cargo-carriers as well as fishermen, so that they cannot be constructed on yacht-like lines and still remain *bona fide* fishermen. On the other hand the American fishermen are built for tripping to the banks and nothing more and consequently may conform to the contour of a yacht and still remain *bona fide* fishing schooners from the American viewpoint. Authorities seem to agree that our Canadian fishermen are no match for the Mayflower, at least, in the comparatively calm water where the finals will be raced. That is not an admission that we are not capable of building a schooner that is, but should we do so it would not be a practical fisherman from the Canadian viewpoint. In other words it would be built specifically for the international races and could not be self-sustaining.

That being the case would it not appear a wise policy for all concerned to eliminate the Mayflower? We are interested chiefly in having this friendly competition endure and it is quite obvious that Canadians will not continue interested when they realize they are outclassed and that the possibility of bringing the trophy back to Nova Scotia is remote.

It is likely the elimination races on both sides of the line will take place about the middle of October and the finals will be sailed off Gloucester, October 21, 24 and 25.

TELL OUR STORY

Although for a short time it appeared that the Royal Commission to investigate British Columbia fishery matters would be indefinitely delayed, the eastern members finally got away from Ottawa on August 8. Unfortunately Dr. Chisholm, M.P., for Antigonish was unable to accompany the party because of illness in the family. William Duff, M.P., chairman of the commission was accompanied by L. H. Martell, M.P., for Hants, N.S., and Mr. Nichol of Lunenburg, who will act as secretary of the commission. On the west coast they were met by the four British Columbia members of the commission and they started at once upon a tour of the province to collect evidence. It is anticipated that the hearing will consume from six weeks to a month and by that time the seductive climate of the west coast may have "got" the eastern members. So there is no telling when they will finish their work.

However, we should repeat the advice we gave in our July issue which was, that our interests on the Pacific coast should take full advantage of the opportunity to furnish these members of parliament with the true conditions. Heretofore bickerings and petty differences among various sections of the industry there have only tended to confuse the situation from an impartial viewpoint. This is not desirable. If there are differences let compromises be effected in private. The hearing offers many possibilities. It must be assumed that the government was honest in appointing the commission and, likewise, that the commission is honest in its purposes. Such being the case we may expect a valuable report to the government and prompt action thereon. Whatever individual opinion may be the situation is too serious to doubt the efficacy of a commission's inquiry. It will cost little effort to furnish the commission with data to influence the report for good. When that effort has been made it will be plenty early to speculate on the practical results of the hearings.

WE CAN HELP ADMINISRATION

The recent experience of the fishermen at Lake St. Clair in having new regulations sprung upon them on the eve of the opening of the fishing season, suggests the many advantages which may accrue to a closer and more sympathetic co-operation of those who work the industry and those who administer it. In too many instances, it must be admitted, fishermen regard administrative authorities as overbearing, intolerent, impractical taskmasters whose sole purpose is to make life more difficult for them. On the other hand there are instances where administrative officers regard fishermen as grasping, immoral and entirely unreasonable people who should be ruled. Now, as a matter of fact, neither has a true understanding of the other and it would behoove all concerned to be a bit more considerate of the other fellow.

The Canadian Fisheries Association was established for the purpose of looking after the welfare of the industry and it has, since its organization in 1914, acted as intermediary between the government and the industry upon many, many occasions. It must not be assumed that the association is attempting to usurp any of the powers or rights to administrate. Nothing of the kind. Its idea is to absorb the views and opinions of those who engage in fishing and give the government the advantage of this service.

Naturally no government wants to do anything to wilfully ruin an industry, but the danger lies in the fact that, not knowing conditions and the views of the people, it may commit some act damaging to the interests of the industry. Unintentionally, mind you, but damaging just the same. The Canadian Fisheries Association represents not only retailers in the industry, but jobbers, wholesalers, producers and actual fishermen. So it is patent it will not approach the authorities with any policy which would advance any particular department at the expense of another. Its policy is to help everyone in the industry, realizing that by so doing it is developing the industry as a whole and, logically, improving the position of individuals in it.

The government is committed by our constitution to accept the will of the people. It is not its function, nor is it its desire, to contravene the verdict of the people. But unless it is well advised, is there not danger that this may occur? And how could any government be better advised on the wishes of the people in respect of fishery matters than by the opinion of the people engaged in that industry, expressed through their organization?

On the other hand the industry has not the right to use improperly the great natural resource which is the property of the people, not of the fishermen, either as individuals or as a class. It is the function of government to direct its use with discretion. Now if fishermen are intemperate in their demands, it may not be wise policy to ignore their views entirely. Through their organization they can at least present them, and hear the views of the government. And fishermen are as reasonable and as amenable to compromise as any other class.

We have a tremendous natural resource, unparalleled anywhere else in the world and it cannot be adequately developed without the co-operation of those in the industry and those who administrate. The men who constitute the Canadian Fisheries Association know the game. The body's membership represents all departments of the industry and the accumulation of their views and experiences furnishes the information upon which the government may move with confidence.

All the association asks is for the authorities to consider the viewpoint here expressed and try to find anything that is inharmonious with the best interests of government. If not, we on our hand will not stint in our co-operation.

HARNESS FISH POWER

The Canadian Press was credulous enough to carry a story from Saskatoon about a certain Dougal MacKenzie, a sturgeon fisherman at the mouth of Torch River, who, disappointed by the non-arrival of a collecting steamer, harnessed his catch of twenty-six sturgeons together and literally drove them to market.

The *Gloucester Times* tells another about an Indian trapper at Lake Hanna, one of the Nipigon system, who was startled on crossing the lake recently, in company with Robert Hardy, by the appearance of a monstrous fish. It shot directly into the air then fell with a splash into the water. It was fully twenty-five feet long and of such proportions that its fall sent out circles of waves.

Some cynic on reading these might be tempted to suggest that the prohibition squad was not on the qui vive. Personally we are curious to know what brand is responsible for we have never enjoyed such glorious hallucinations. We contemplate visiting the north Atlantic banks some of these days and, having been warned now, it will occasion us no surprise to see the steam trawlers plowing their homeward way under fish-power. The potential pull-power of thirty or forty thousand cods or haddocks should suggest a solution of the fuel problem this winter. Just store enough to get to the fishing grounds and you will reach market early or late according to your fish-power catch.

And on that same trip we shall be terribly disappointed if we do no see giant reptiles and various mammoths of the deep snooping about and peering through the ports to disturb the secrecy of our sanctum sanctorum.

What a wonderful place the water is beginning to be. And what wonderful sights people are seeing since they have been drinking nothing but water. My word!

CONSIGNMENT BUSINESS CONDEMNED

Agents who represent Newfoundland codfish exporters in European countries are endeavoring to induce exporters to put a stop to the practice of shipping on consignment and they suggest compulsory inspection and standardization as an important element in making this possible. They suggest that shippers this year apply the principle of outright sales to Italy and Greece and if the plan is agreeable to all, they would request that the Newfoundland High Commissioner in London be asked to communicate with Iceland and Norway to make the plan universal. Failing the adoption of this scheme the agents ask that independent inspectors be placed at the ports of Greece and Italy to pass upon the quality of the goods and thus give assurance to buyers that they may purchase with confidence.

The suggestion made for the benefit of Newfoundland shippers regarding compulsory inspection, standardization and outright sales applies equally as much to Canadians. There is no doubt that the necessity for retaining the consignment system is due only to the lack of confidence in foreign markets as to the quality of goods they may receive. Buying outright would, it must be admitted, be a risky proposition on their part unless they had dealings with a firm of reliable standing. But would not government action remove this doubt on their part and equip exporters to regulate more accurately the selling price of their fish?

PISCATORIAL NOTES

"During the month of June there were 534,571 cwts. of fish landed *on both the Atlantic and Pacific shores of Nova Scotia,*" says a recent issue of a Gloucester (Mass) paper. Well! Well! How the fish province does grow. Stick out your chests, you bluenoses!

It is announced that the government of Newfoundland is to institute a freight and limited passenger steamship service between St. John's and the West Indies. In the initial stage a steamer will leave every six weeks and should conditions warrant another steamer will be put on in 1923 and a run will be made every three weeks.

On their recent visit to Washington, Premier King and Hon. George P. Graham discussed with the U. S. authorities various fishery problems of the Atlantic and Pacific. They report that their views on these issues were received with sympathy but they were told that it was not deemed advisable to attempt to get a treaty through the American senate at this time owing to the strength of influences which have been opposed to it. The treaty referred to is the agreement of 1918, which is more or less of a panacea for all our international fishery troubles. It has been accepted at Ottawa and has been hanging fire at Washington for four years now. By the time the senate sees fit to pass it it will be as a relic of antiquity for preservation in the national archives.

Certain influences at Washington, ignoring the handwriting on the wall, are bent on putting through the tariff bill immediately. On the other hand we have Premier King, speaking at Leamington recently, offering the Americans reciprocity whenever they choose to accept it. Surely the fishing industry is on the horns of a dilemma. And as far as we can size up the situation the industry is safe as long as it hangs to both horns, but let it get impaled on either one and the future is cloudy. Speaking about horns naturally suggests bull. This is a case where we want the bull, the whole bull and nothing but the whole bull.

Co-Operation in Lobster Industry

With co-operative scheme employed, two hundred canneries could do the work of six hundred and with better results.

By C. McKAY

A normal pack of about 140,000 cases of canned lobsters was put up in the Maritime Provinces during the past season, according to the estimate of Mr. Williams, manager for Simpson, Roberts & Co. Ltd., one of the important firms engaged in the lobster business. At the outset of the season a decline in prices was anticipated, but instead the packer's price had by the end of the season appreciated by nearly $8.00 per case. This was very gratifying to the packers, as well as a good thing for the fishermen. Whether the exporters who now have a large part of the pack in stock will make a profit on the basis of the packers' price remains to be seen; but they appear to me confident that they will be able to dispose of the whole pack at satisfactory prices. Considerable shipments have already gone forward to the British and American markets, and the consuming markets now are reported to be well stocked. But although for the present the demand is quiescent, prices are holding firm.

On the southwestern shore of Nova Scotia the lobster catch during the season was poorer than usual. This is attributed to the fact that during the special fishing granted this district last fall the fishermen caught many lobsters that they would otherwise have captured during the spring. If the results of the special fall and regular spring season are combined, the quantity of lobsters taken was about equal to a normal catch in the regular season.

In eastern Nova Scotia and Cape Breton, the catch was an average one, and on the north shore of Nova Scotia the catch was also normal. In Prince Edward Island the catch was somewhat above normal. In New Brunswick while varying in different districts the catch on the whole was a good average one.

The distribution of the lobster canneries is indicated by the following figures showing the number of licenses to pack lobsters issued in 1920:

Nova Scotia	165
New Brunswick	184
Prince Edward Island	186
Quebec	71
Total	605

Have Lobster Production Cornered

The Maritime Provinces and Quebec have the only canned lobster industry of any importance in the world. When this fact is taken into consideration, along with the fact that an average annual pack is only about 140,000 cases of 200 pounds each, it is not surprising that lobsters are a luxury. If the whole pack were sold in Canada it would give each person about three pounds a year. As a matter of fact, only about one-sixth of the pack is marketed in Canada. The principal market is Great Britain which takes from one-third to one-half of the pack. The United States is the next important market, absorbing about one-third of the pack. Before the war, France and Germany bought quite large quantities of our tinned lobsters. France is still buying limited quantities, but the exchange situation is against large sales there now. Germany has taken some small consignments since the war, but at present the market there is out of the question, as a case of lobsters would mean a fortune in marks. Norway takes a small quantity, as do Belgium and Holland. The balance of the pack goes in small consignments to other countries.

With a limited source of supply and with the world as a market, canned lobsters cannot be considered a staple article of food; they are necessarily a luxury, with prices in accordance. Taking everything into account, it is remarkable that the packers are not able to command higher prices than they do — prices which some people say are too high, though they are a fraction of the prices paid by consumers, especially in the so-called lobster palaces. Most people buy canned lobsters in such small quantities and so infrequently that a few cents on the pound is a matter of no moment.

The canned lobster industry is an important one for the Maritime Provinces; but as carried on at present it cannot be said that the best possible results are being obtained. While perhaps on the whole fairly profitable to those engaged in it, the industry has its up and downs. Individual packers may make good money one season, an incur serious losses the next; many of them supply the traps used by the fishermen and a storm may do much damage to the traps, as well as shutting down their factories while new traps are being made. As for the firms which stock lobsters for export, they may encounter price fluctuations which leave them nothing or less for their year's operations.

200 *Factories Would Do*

Some firms, in a large way of business, operating factories as well as attending to the selling end, have no doubt made fairly respectable fortunes. But the conditions of the industry are not conducive to fortune making; and the net returns to packers and fishermen are not what they might be. Six hundred and five factories are engaged in canning lobsters, and this number is said to be far too large by authorities in the trade. It is true that these 605 factories are scattered around about 5,000 miles of coast line; but it is estimated that 200 factories would be sufficient. These 605 factories on the average pack 233 cases of lobsters each. As some pack more and some less than the average, the smaller packers evidently do not make profits which represent a livelihood, and must have other occupations when not engaged in lobstering. Again, these numerous factories, while usually not expensive establishments, entail a burden of what seems to be largely unnecessary overhead expense.

Another consideration is that the small factories cannot afford to install the best equipment made available by science and invention. Dr. A. P. Knight, chairman of the Biological Board of Canada, has recently made some pertinent observations on this subject in an interview urging the importance of the installation of retorts in place of ordinary boiling vats. Scientists working under his direction have demonstrated that one kind of bacteria is not killed by five hours of continuous boiling; and there

are hundreds of different kinds of bacteria. And since the ordinary boiling vats, used for boiling lobsters and bathing the cans do not kill all the bacteria, the lobster meat becomes discolored and unfit to eat. According to Dr. Knight, the packers, or at any rate the exporters, lost two years ago the sum of $375,000 on account of blackened lobsters. In order to kill all the bacteria, it is necessary that the lobsters and cans be placed in steam or water raised to a much higher temperature than can be obtained with an ordinary boiling vat. To obtain the desired temperature tube boilers and retorts are necessary.

Too Much for Little Fellow

A real good boiler will cost $400 or $500, and a correspondingly efficient retort will cost from $200 to $800, according to Dr. Knight's estimate; but some packers say a reasonably efficient equipment could be installed for a much smaller sum. Be that as it may, and despite the fact that the Dominion government is sending men around to demonstrate the need of boilers and retorts, the smaller packers are not likely to be in a hurry to expend $500 or even $300 to install modern equipment to improve the small pack they put up, and that notwithstanding the statement of Dr. Knight that the industry two years ago lost through blackened lobsters $375,000, a sum that would have put a $620 equipment in each of the 605 factories.

The large number of lobster canners is presumed to assure competition and good prices for the fishermen. That it does so is a very debatable question. These numerous packers, doing a small business with a relatively large overhead expense, cannot afford to pay the fishermen, as good prices for their catches as few packers doing a big business could afford to do. Of course, the concentration of the packing operations would not automatically guarantee the fishermen better prices. Whether the larger packer would do what he could afford to do is another debatable question, or one that can only be determined by experience. But the displacement of small scale production by large plants is a characteristic feature of modern industry; and the big garment making establishment pays its workers better than the little sweat shop did. And the principal reason is that it can afford to do so.

Doubtless the small packers could put in the necessary equipment — for it is a relatively simple process that the lobsters are subjected to — and turn out a product always reliable. But they have not done so. It is seldom that small scale industries are progressive or economical.

While there are advocates of a drastic reduction of packing licenses, no material reduction is likely in the near future. The small packers have acquired vested rights, and they usually have neighborly relations with their fishermen. Whatever the Dominion Fisheries Department may think of the situation, it is unlikely to take action to reduce the number of licenses, because of the probability of an outcry from local politicians.

What May Be Done

But if the installation of tubed boilers and retorts will assure a better and reliable product, the government may very well take measures to force the hands of the packers. That may be done under The Pure Food Laws, against which neither the packer nor his political friends can reasonably protest. The results would be beneficial to the packers, the trader, the fishermen, and the consumer. By insisting on the installation of approved equipment, it would be possible to standardize the product, and put it on the market under conditions which would stimulate demand, and enable better prices to be obtained. Since the Nova Scotia fruit growers learned to pack apples properly under the jurisdiction of large co-operative associations, the unfavorable price differential they had to face in the past has largely disappeared. And the possibilities of improved lobster packing with respect to price would seem to be much greater, because Eastern Canada has a monopoly of the canned lobster business. When the quality and condition of canned lobsters can be guaranteed there is bound to be a greater demand for them, especially for dressing other dishes. Little or nothing has been done in the way of advertising its possible uses in this respect. In fact, it should be possible to create such a demand for tinned lobster meat, that it would only be available as "dressing" for epicurean dishes of the well-to-do, a luxury *par excellence* commanding much greater prices than at the present time.



H. F. ROBINSON

Popular Manager of the Maritime Fish Corporation's branch at Canso, N. S.

FISHING INDUSTRY OF JAPAN

The fishing industry is one of the most promising in Japan. Its greater development will not only contribute to the country's food problem but to the strengthening of the nation's financial position, stated the Japanese Minister of Agriculture and Commerce at a recent conference of officials in charge of fishing and its allied industries. These industries are of great importance in Japan, said the minister, and their promotion must be helped by all available means. Of late years they had achieved marked developments, but still stand behind other leading industries in this country.

Explaining the Goverment policy, the minister said that the Government would push forward its plan of encouraging and urging self-control of their own affairs.

Illegal Lobstering Threatened

Intense activity in Fall fishing is outlook—Good mackerel catch followed by splendid run of swordfish and halibut on Atlantic Coast. (By Our Own Correspondent)

The general condition of the fishing industry continues to be a great improvement over the past several years. The large catches of mackerel have been followed by excellent catches of halibut and swordfish, while the cod and haddock fisheries have been well sustained. The scarcity of herring, notable the past two years, continues. For some reason, yet unexplained, the usual large spring and summer runs have not materialized, consequently the supply of bait has been a serious handicap to the fishermen of many important districts.

There is unusual activity on the part of the American summer fleet, and a much larger number of vessels than usual has arrived off our coasts. The seiners are working toward Prince Edward Island, and the swordfish fishermen, toward Cape Breton. The Fishery Protection Cruiser "Arras", Captain Barkhouse, is following the movements of the fleets and will render any assistance required, and also prevent any international irregularities.

Revival On West Coast

It is gratifying to report that the revival of the industry in Western Nova Scotia continues with encouraging results. This is particularly noteworthy in Yarmouth, Shelburne and Queens. Yarmouth Town is becoming an important centre, and the Pubnicos, where in former years a fine fleet was supported, is showing much activity. As an evidence of what may be down by a competent captain and crew, it may be noted that Capt. Simon Theriault, in charge of G.R. Earls' Schooner. "W. G. Robertson", recently arrived at Yarmouth with a stock valued at nearly $7,000. For the seven weeks Capt. Theriault made an excellent showing, landing 103,000 pounds of fresh halibut, besides considerable catches of mixed fish. About $13,000 was stocked in the seven weeks.

The lobster fishing and canning industry, which was prosecuted with remarkable vigor during the spring and early summer, will see a continuance of this marked activity. The fishermen and canners are planning for big things for the late summer season opening Aug. 16. A number of new canneries will be ready for operation, and there will be a very considerable increase in the number of traps.

The activity is due to the high prices paid for the spring catches and pack. The competition among the buyers, while greatly to the advantage of the fishermen and canners, may prove not to be very profitable to the dealers, particularly in the event that a large pack is put up this fall.

Season's Lobster Pack

It may be of interest to note that the Prince Edward Island pack for the season ending June 25, was 37,755 cases as compared with 27,582 cases for the spring of 1921, or an increase of over 10,000 cases. The value of the pack, at the average price paid of $30. per case, was $1,123,000 as compared with a value last season of $556,000. If the increase in the pack for the season opening on the 15 is at all comparable with that of the spring pack, it will be seen that not only is the industry a most valuable one to the Island, but that the decrease in the Western Nova Scotia pack will be more than made up by the increase in the Island pack.

The Western Nova Scotia pack for the regular season, which closed June 1, was only 13,817 cases, a decrease of over 10,000 cases as compared with the pack for the same season last year. The falling off in the catch and pack in this usually most protective district is attributed to the special season which was granted in November last. Special fishing season or extensions to existing seasons are of very doubtful value, and always have a demoralizing effect on the industry.

The pack for the six Eastern Nova Scotia counties of Halifax, Guysboro, Cumberland, Colchester, Pictou and Antigonish for the spring season was 27,320 cases as compared with 20, 873 cases the previous year. Each of the counties show an increase, Pictou, Antigonish and Cumberland leading. In Pictou the pack increased from 7,707 cases in 1921 to 11,038 in 1922.

Threaten Illegal Fishery

Reports are to the effect that determined efforts will be made to engage in illegal fishing and canning this fall, particularly on portions of the Prince Edward Island coast and of the New Brunswick. The fishery officers have been advised of the reported intention of the fishermen, and are taking precautions to prevent illegal operations. The industry has become too vital from an economical point of view to permit any unwise exploitation, and while the more intelligent fishermen are taking strong grounds against the danger affecting the fishery, there is a class of fishermen difficult to control. They live for the present only, and have no thought or care little for the protection of this most valuable fishery.

On the other hand, it is gratifying to observe the large and growing body of fishermen who are alive to the necessity of the observance of the regulations governing the fishery. It is particularly noteworthy that in the districts where there is little or no poaching, and where the seed lobsters are protected, the fishery is in excellent condition. As an evidence of the interest taken in the protection of the seed lobsters, it has been marked that the number of berried lobsters taken in the traps the past several years has very greatly increased. While these berried lobsters are quite generally liberated, it is to be regretted that there are some fishermen who destroy the eggs and endeavour to sell the mother fish. The better class of fishermen soundly condemn any of their fellows who offend in this respect. Indeed in several instances they have driven the offenders from the district. Similarly with respect to other wilful violations of the regulations, drastic action has been taken by the fishermen who are determined to prevent, as far as possible, any attempts to despoil the fishery by illegal operations.

Magistrates Too Lenient

In conversation with the chief inspector, I am informed that a number of the local magistrates are not alive to the seriousness of the offences, and frequently impose a very small fine or else suspend the enforcement of the penalties. This has the effect of bringing the enforcement of the regulations into contempt, thus discouraging the officers and outraging the best sense

of the fishermen who are interested in the protection of the industry. It has frequently been suggested that provision should be made in the Fisheries Act for an adequate minimum penalty for all offences of a serious nature, such as fishing during the close seasons, destruction of berried lobsters, and illegal canning.

In talking recently with a prominent New Brunswick dealer in canned lobsters, it was pointed out that the danger from illegal fishing and canning could be avoided if the dealers would refuse to participate in any way with the illegal traffic, and in particular refuse to purchase any illegally packed goods, as without doubt the illegalities can only be carried on with the connivance of certain of the dealers. The dealer referred to, while strongly condemning the business, which, he states, is not only demoralizing to the fishermen, but jeopardizes the good name of the pack as the conditions under which the illegal goods are put up must be unfavorable to quality, stated that the dealers who also operate canneries were often placed in a most awkward position, as goods, which they are fairly sure have been illegally packed, are offered for sale by certain of the fishermen who supply them with their catches during the legal season, and without whose assistance they would be unable to secure supplies for canning. A refusal to buy the illegal goods is met with the threat that unless they do take the goods, disposal will be made to other buyers, and the fishermen refuse the next season to fish for the cannery operated by the dealer who declines to buy the illegal pack.

Similarly offending canners informed the buyers that unless they purchased the illegally packed goods they will break off all relations with the buyer and engage to sell their illegally packed goods to the buyer who will accept their illegal goods.

While the dealer alluded to stated the quantity of the illegally canned goods offered for sale has greatly declined the past several years, there still continues to be offerings of small quantities from time to time. The total offerings made to him the past three years was not exceeding three hundred cases. Further, that the illegalities are now confined almost entirely to small districts in Prince Edward Island and Northern New Brunswick.

Aware Of Conditions

Chief Inspector Fisher advises that he is fully aware of the conditions complained of but is hopeful that within a short time to have the situation completely under control. He gave many instances of the difficulties the officers have to contend with in fully enforcing the regulations, and explained that the illegal canning operations are carried on secretely in the homes of the offenders or in remote places along the shore, but rarely or never in any of the cannery buildings. Further, the activities of the officiers is making it increasingly difficult to continue the business with safety or profit. The patrol system is gradually being perfected, and it is confidently expected that the illegalities existing in the districts alluded to will be stamped out by the adoption of a more adequate patrol system, and much more stringent action against any offenders that may be apprehended.

The prevention of boot-legging in lobsters is apparently as difficult as bootlegging in rum, and largely for similar reasons.

Gaspé and North Shore Need a Market

Hon. J. E. Perrault, Minister of Colonization, Mines and Fisheries in the Quebec government, recently made a tour of the Gaspé Peninsula and the North Shore of the St. Lawrence for the purpose of getting first-hand information as to the needs of the population in these areas. Judging by a report he made on his return to Quebec he has sized up the situation pretty accurately so that we may confidently expect a little bit of enterprise injected into these naturally endowed districts.

Hon. Mr. Perrault is deserving of congratulation for the effort he has made to get at the root of the situation and ascertain causes for the lack of progressiveness in both the Gaspé Peninsula and the North Shore. Heretofore ministers of the crown, charged with the administration of fisheries in eastern Quebec, have been content with hearsay evidence that the people there are naturally backward and slow to adopt twentieth century methods. Hon. Mr. Perrault has gone beyond that. He has endeavored to ascertain the cause and that is the first step in the way of a change.

The people in the territory investigated have access to valuable fishing fields and citizens elsewhere in the country have been at a loss to understand why fish supplies from these waters should not be entering Canadian markets. That they have no outlet to justify a vigoruous working of the industry, is the view of the Quebec Minister and he states that "means of opening a good market for the North Shore will be one of the first matters to be taken up by my department as a result of my inspection tour. The fishermen may have abundant catches, as was the case this year, but unless immediate steps are taken to allow them to sell their fish they cannot improve their situation.

"The 17,000 inhabitants of that beautiful section of the province have the right to share the advantages offered to others and the Government will be asked to cooperate.

"Though laboring under difficult conditions, residents of the coast have prospered, but there has been hardship, which is now slightly relieved through the construction of coast roads, to which the Government has contributed.

Ask for Education

"Among the requests made by the inhabitants was one to encourage public instruction, showing the spirit existing.

"The Eudist fathers, who are in charge of the Catholic community, report that moral conditions are excellent. The same state is also noted by the Protestant clergymen, who, out of 17,000 inhabitants, have one-third under theri jurisdiction. The Indian population, estimated at 2,000, sent delegates to meet the party.

"From Quebec the palatial S. S. North Shore, of the Clarke Steamship Company, took us to the extreme northeastern limits of the province, Notre Dame. We attended divine service on Sunday last at Pointe des Esquimaux. His Grace Mgr. Leventoux, apostolical vicar of the North Shore, was received on board the boat. Though only in charge of the vast diocese for a short time, he made interesting suggestions."

Hon. Mr. Perrault and party were the guests of Mr. Johan Beetz, where they visited an important fox ranch. They also were entertained by Senator Gaston Menier, of France, on Anticosti Island. The pulp plants at Clarke City, where 200 tons of ground pulp are produced daily, and plants at Pentecost River, were visited.

Work of the Fish Hatcheries

Reports from stations in various provinces disclose gratifying results for the season.

Nova Scotia

After one or two poor years, a record run of salmon has entered the Margaree River this season. The angling far exceeded that of recent years, and it is reported that 100 salmon were taken on the fly early this month from a comparatively small stretch of the river. A good run of salmon almost invariably ascends the Margaree with the autumn rains towards the beginning of the spawning season. This year the water remained high and the run of salmon has been large and steady throughout the whole spring season.

The season's operations at the Dominion hatcheries at Bedford, Middletown and Windsor have recently been brought to a successful close with the distribution in the best possible condition of over 4,500,000 Atlantic salmon fry. In addition to the above 300,000 salmon are being retained and fed. These will be liberated during the course of the summer when they have reached a length of from three to four inches. The salmon rivers of the Atlantic Coast are in excellent condition, as is evidenced by the act that record catches have been made in practically all the streams by the commercial fishermen as well as the anglers.

New Brunswick

Over 2,755,000 Atlantic salmon fry were distributed from the Miramichi fish hatchery this season; 129,000 were retained for feeding, 1,000,000 eyed eggs were exchanged with the United States Bureau of Fisheries for an equal number of trout eggs, and 300,000 were given to the Department of Colonization, Mines and Fisheries at Quebec, making a total output of over 4,184,000, which is an increase of over 20 per cent. on last year's distribution.

The Dominion Fish Hatchery located at Grand Falls, N. B., this season distributed 1,585,000 salmon fry and retained 1,129,000. It also retained 4,000 Ouananiche, making a total of 2,718,000. This is an increase of some 373,000 over last year's figures. Tobique, which is subsidiary to Grand Falls, distributed 1,152,000. This is the largest distribution from that establishment since it was first opened in 1915.

The St. John Fish Hatchery produced more eyed eggs and fry this season than in the last two years together. Some 2,027,600 Atlantic salmon fry hatched and in addition 1,150,000 eyed eggs were shipped to New Hampshire in exchange for an equal number of rainbow, speckled and brown trout eggs. Other species as follows were also hatched:- Brown trout, 97,000; Landlocked salmon, 73,000; Rainbow trout, 64,000; Speckled trout, 274,000.

The Dominion Fish Hatchery located near Flatlands, N. B., distributed this season 1,434,900 Atlantic salmon fry, and retained for feeding 110,500, making a total of 1,545,400, which is an increase of over 21 per cent. on last year's figures. The Nipisiguit Hatchery, which is subsidiary to this hatchery distributed 383,100 salmon fry, which is also an increase of 16 per cent. over last year's figures.

Quebec

The salmon anglers have experienced a splendid season in the rivers of the Gaspe and Tadousac districts, Quebec. Weather and water conditions were favourable and many high scores were made. The salmon runs of these streams compared favourably with the best of previous seasons after the poor year of 1920.

The angling and commercial fisheries of these districts have been very largely maintained by the hatcheries operated by the Dominion Government, which this season distributed nearly one and three-quarter million young salmon in the Tadousac district and over one and one-quarter million in the Gaspe district.

British Columbia

Cutthroat trout eggs were for the first time since 1915 collected locally at Skeena River Hatchery. Some 70,000 eggs were taken and many more would have been available had not the freshet washed out the fish fences allowing the trout to ascend to the upper reaches of the river.

The Dominion Fish Hatchery located at Babine Lake this season was successful in distributing 3,683,000 sockeye salmon fry and retained for experimental purposes 1,375,000 fry, making a total of 5,058,000, which is an increase of over 14 per cent. on last year's figures.

The hatcheries operated by the Dominion Government on the Fraser River watershed during the current season have already distributed upwards of 41,000,000 eyed eggs and fry in the free swimming stage. In addition to the above 10,500,000 are being fed in the retaining ponds at the various establishments, and will be liberated as fingerlings after they have attained a length of from three to three and one-half inches. The total output for the season, including fry distributed and placed in the retaining ponds, therefore exceeds 51,500,000.

Over five million sockeye eyed eggs and fry developed in the Dominion Fish Hatchery located at Stuart Lake last spring. Some five hundred thousand of these were planted out as fry, approximately two and one-half million as eyed eggs and the balance retained for rearing to the fingerling stage. This hatch is over a million greater than last year.

A temporary eyeing station for Kamloops trout eggs was this season opened by the Department of Marine and Fisheries on Lloyds Creek, near Kamloops, B. C., and was attended with a satisfactory measure of success. The parent fish were caught in Paul's Creek, where they were present in large numbers. The hatchery troughs were filled to capacity, and 776,000 eggs were taken. This number could have been exceeded to a considerable extent as the fish were present in sufficient numbers. After the hatching troughs were filled, the trout were allowed to ascend the stream, and in this way the grounds were abundantly seeded in the usual way. The greater part of the eggs were utilized in stocking the waters of the neighbourhood, but 110,000 were transferred to the hatchery at Cowichan Lake; Vancouver Island.

The three hatcheries operated by the Dominion Government on Vancouver Island, and located respectively on Anderson, Kennedy and Cowichan Lakes, had an output during the current season of over 14,000,000. Of this number 4,490,000 were distributed as eggs, 8,953,000 as fry in the free swimming stage and the balance of 647,000 are being fed in retaining ponds, etc., and will be liberated as fingerlings after they have attained a length of from three to three and one-half inches.

New Regulations as Season Opens

Fishermen at Lake St. Clair get bad scare— Government threatened to make business unprofitable for them.

Members of the Lake St. Clair Branch of the Canadian Fisheries Association turned out in force at Tilbury, Ontario, August 4, to discuss new regulations pertaining to fishing in the waters of Ontario. About ninety-five per cent of the total strength of the branch attended, some coming a distance of thirty miles, so this will furnish an indication of the importance which they placed upon matters at issue. W. C. Cartier, the aggressive president, directed the meeting, and George Jubenville, secetary, was with him. E. G. Odette, mayor of the town of Tilbury, was on the platform, R. L. Brackin, M. P. P., and James H. Conlon, national secretary of the Canadian Fisheries Association, who had been invited to hear the discussion.

The fishermen were particularly incensed because just recently they were furnished with new regulations which placed intolerable size limits on the most profitable species Lake St. Clair produces. They had no prior warning and naturally felt alarmed as their season opens the first of September. Among other things the amended regulations prohibit the taking of yellow perch or white bass under nine inches in length, sheep-heads under twelve inches or carp less than three pounds in the round.

While it was quite possible that the size-limits fixed might meet with the satisfaction of fishermen elsewhere on the Great Lakes they certainly could not apply to Lake St. Clair. It must be borne in mind that conditions in the latter are entirely different from elsewhere. The lake does not yield any whitefish, ciscoes' herring or trout, species which are of vast economic importance in other Ontario areas. The fishermen are compelled to derive their livlihood from species which are elswhere regarded as lower grade. Furthermore the waters of the lake are shallow and consequently the fish very infrequently attain the size which the same species reach in other lakes. It was maintained that the limit, if such was considered at all necessary in Lake St. Clair, should not exceed 6½ inches on pickerel and white bass and no reason could be found for any limit whatever on sheep-heads or carp. The latter are not considered desirable tenents and should they be protected the fishermen fear that the better species would be sacrificed to the predatory carp.

The fishermen also entertained fear that they may be compelled this year to substitute a new-fangled hoop-net for the improved pound-net which they have been using for the past twenty-five years. The authorities at Toronto last year ruled that the equipment came under the scope of trap-nets which are banned, but upon representations being made the old equipment was permitted until further notice. In view of the manner in which Toronto sprang the amended regulations upon them they appear to be justified in their fear that the authorities may spring anything.

Objection to the proposed hoop-net and the reasons therefore have already been submitted to the authorities at Toronto and the fishermen state that the minister sent them away with the idea that the federal government is responsible for regulations. While this is true it was made quite clear by correspondence from Hon. E. Lapointe, Minister of Marine & Fisheries at Ottawa, that the regulations were made only upon the suggestion of Toronto.

The improved pound-net in use in Lake St. Clair is adapted to the shallow waters and other special conditions and is an evolution urged by the necessity to meet conditions. In recent years the fishermen in the lake have had their license increased from five dollars to twenty-five per net and the size of the equipment cut by half. To force upon them this hoop-net would mean to deprive the fishermen of a livlihood or force them to resort to illegal means, neither of which the department of Toronto could desire.

The national secretary, Mr. Conlon, was requested to take the matter up immediately with the responsible authorities and andeavor to secure an adjustment to enable the fishermen to prosecute their calling on a normal basis when the season opens on September first. Mr. Conlon spent the entire day with the branch to secure the full details to acquaint himself with the true facts of the situation and promised to take up the issues at once.

Fishing Results for Month of June

During the month of June there were 934,571 cwts. of fish landed on both the Atlantic and Pacific shores valued at $3,118,376. This compares with 721,928 cwts. valued at $2,881,190, landed during the same period last year.

Of the quantity landed this year 535,558 cwts. were cod, haddock, hake and pollock. The quantity of these kinds of fish landed in June last year was 429,291 cwts.

The run of mackerel on the Atlantic coast this spring has been the best for a number of years. During June 132,893 cwts. were landed, while only 70,120 cwts. were caught in June of last year. Up to the end of June 152,792 cwts. of this fish have been landed, compared with 82,474 for the first six months of 1921.

The catch of alwives, especially in some parts of Nova Scotia, was very good. There were 31,938 cwts. taken during the month compared with 7,724 cwts. in the same period last year.

The lobster catch on that part of the coast where the season has not closed was very good. Along the north shore of Prince Edward Island and in parts of Cape Breton Island poor catches were reported, but the quantity taken, 101,529 cwts., is much greater than that taken in June 1921, viz., 62,367 cwts. The fishermen were paid more for their catches than last yaer, too. Since the opening of the lobster fishing season in November last, 305,337 cwts. have been taken. Of this quantity 54, 478 cwts. have been used fresh or shipped in shell, and 125,407 cases have been packed. During the same period last season there were 293,249 cwts. taken, of which 80,585 cwts. were shipped fresh, and the remainder packed making 106,788 cases.

On the Pacific coast the catch of halibut was slightly less, and the catch of salmon slightly greater than in June of last year.

One fisherman lost his life on the Atlantic coast during the month.

Fish Waste Not Being Utilized

Tremendous economic waste continues along Atlantic Coast because fish waste and offal cannot be profitably reduced.

Along the Atlantic seaboard little use is yet being made of the vast amount of fish waste which is capable of producing many by-products of value. Intimation was given in the press recently that unusual progress had been made in the last year or so to reduce the waste profitably and the *Canadian Fisherman* communicated with Ward Fisher, chief inspector of fisheries in the east, to ascertain the true facts. Unfortunately, they do not bear out the hopes the press item inspired. Mr. Fisher's letter follows:

"In reply to your inquiry of May 31, as to the extent fish waste is being utilized for commercial purposes, I am to report that little is being done to reduce the large quantity of ordinary fish waste into fertilizers or fish meal products. It does not appear that there will be any developments of value in this respect until a simple and inexpensive reduction system is placed on the market so as to permit economical operations to be carried on in comparatively small fish waste producing areas.

The cost of collecting the waste is too great under present methods, and forbids the successful operation of the reduction plants for any considerable portion of the year.

The plants established by the Government some years ago at Shippegan, N.B., Clarks Harbour and Canso, N.S., while primarily for the purpose of eliminating the dog-fish pest, and therefore operated only during the run of dog-fish, undertook also the reduction of ordinary fish waste, but notwithstanding the heavy receipts of dog-fish supplies the plants could not be profitably operated, and therefore private enterprise could not be enlisted to engage in the business.

It was found that the cost of collecting supplies and transportation to the plants, together with the first cost of the fish, was too great to meet operating expenses, and the plants had, therefore, to be closed and disposed of.

Small inexpensive plants located in the centres of the chief fishing districts are required for successful operations. While the fisheries cover a very large extent of coast line there are few if any points where the available supplies of the waste are sufficient to keep plants of the present methods profitably in operation.

Operations at Canso

The chief, and practically the only plant giving special attention to the utilization of fish waste is conducted by the "Marine Fish Production Company", at Canso, Nova Scotia, where the company has acquired the old government reduction plant and has engaged in the manufacture of fish meal and oil from dog-fish. Fish meal, which contains a high percentage of protein (about 80 p.c.) is used mixed with other brands of meal for cattle feed, and has a ready market at a fair price. Fishermen were paid $6. per ton for dog-fish landed at the plant. A sufficient supply, however, could not be obtained the past year to make the operations the success anticipated. The lack of raw material was due to prevailing weather conditions during the run of dog-fish, as well as to the lack of a sufficient number of fishermen engaging in the catching of the dog-fish.

The Robinson Glue Factory, at Canso, utilizes the ordinary fish waste at that port for the manufacture of commercial glues.

The reduction plant of "The Canada Feed and Oil Company", Lockeport, Nova Scotia, which has been engaged in utilizing the fish refuse of that port for the production of fertilizers and fish meals ceased operations last year.

Fish Scales and Dulse

Hitherto unlooked for opportunities are constantly arising for the utilization of little known products of the sea. For instance, a side line of considerable promise developed in Grand Manan the last year in connection with the smoked herring industry. In this trade, which is a large one, it is necessary to remove the scales from the fish before salting for the smoke-house. The scales were a waste until last summer, when a New York Company engaged in the manufacture of artificial pearls sent their operators into the district and purchased large quantities of the scales, for which .05c. per lb. was paid. The total amount expended was $17,000 and it is contemplated to very greatly increase the business the coming year. The scales are processed and the residue forwarded to the United States for manufacture into pearls. It is stated that the best quality of artificial pearls is produced.

Also, inquiries have been made as to the possibility of securing large quantities of dulse, for which a ready market is assured. For some years past considerable supplies have been gathered, chiefly at Grand Manan, N.B., and Digby, N.S., although a good quality of dulse may be easily secured at many points along the Atlantic coast. About 1,000 cwt. was prepared for the market the past year, the value of the catch at Grand Manan being $5,880. It is reported that prospects of developing a value of at least $50,000, is probable. The usual method of taking and preparing dulse for market is to strip at from the rocks at low tide, and sun-dry for several days. This method of preparation is crude, as the production of the best quality depends upon perfect weather conditions. Doubtless with the probable development of the industry, artificial drying methods will be introduced.

GIFTED DISCOVERER.

Belcher — Columbus was a prophet.

Crane — No, my son, Columbus was a discoverer. He discovered America.

"Yes, but when he first saw it didn't he shout, 'I see dry land!'?"—Answers.

STILL AN OPEN QUESTION.

"Doesn't your mother object to your staying out until 2 or 3 o'clock in the morning?" the young lady was asked.

"I don't know," the young lady replied, "She might if she knew about it, but I always beat mother in."—Exchange.

Better Quality--Better Markets

Circular puts it up to fisherman that he must be more careful if business is to return bigger profit—Some good propaganda.

This is the sort of propaganda needed among fishermen. It is a circular letter distributed by S. R. Griffin & Sons of Guysboro Co., N. S. to fishermen of that district. Other buyers along the coast would do well to emulate the Griffin firm in spreading this class of literature. It is only by constant repetition that fishermen will be impressed. Editor of C. F.)

This pamphlet is being sent out with the hope that the Fishermen of Guysboro County will so improve the curing and packing of their mackerel and herring that their brands will command the very highest prices in local and foreign markets. A little extra work and care will accomplish this. Being the largest buyers of salt fish in the county, we are naturally much interested in having a first class article to sell our customers. Some fishermen are careful in handling and curing their fish, others are not. If we expect our Nova Scotia fish to compete successfully with fish from other countries, we must exercise more care in handling and curing all our fish.

Mackerel is the most profitable fishing we have in this district and it is about the curing and packing of these we will speak first.

Mackerel should never be taken out of the boat with a fork. If possible, hoist them out in a tub or throw them out on stage by hand. Split carefully (be sure your knife is sharp). Some say, to drop in tub of water and gib out of tubs, changing water frequently; others, that it is as well if one can keep up with splitter, to gib and then drop in tub of clean water. Mackeral will not stain so badly if either way is followed. After gibbing carefully throw in tub of clean water and do not put more in tub or puncheon than can be well covered with water.

After thorough splitting and gibbing, if at all possible, scrape most of blood off back bone, and be careful that all the gill and heart are off every fish, then rim them and drop into tub of clean water, face down. If catch is large and has to remain in soak over night, change them into clean water again, putting some salt in each tub of fish. Fishermen who have no wharves or stages, and dress their mackerel on the beach, would, we think find it a splendid idea to split and gib their mackerel out of their boats into a crate at side of boat. Mackerel would then be easily soaked clean without changing them into tubs of clean water. After mackerel are cleaned and rimmed, and allowed to remain a while soaking, draw the crate ashore and carry them into store where salted. We believe it best to salt mackerel face down, so, any sediments or dirt in salt will not settle into meat of fish. The sediments will wash off the backs of fish easily before packing them for shipment. Handle mackerel as carefully as possible so face will be smooth when cured.

Every fishermen should take pride in his work and see how well he can split his mackerel, not how many he can do in a minute. Mackerel always look better if salted in barrels instead of puncheons. We might add, mackerel that remain in nets too long are usually belly burnt, and are more or less ragged when cured. When packing these up, the bones should be clipped off, it will greatly improve the appearance of a poor fish.

To avoid having rusty mackerel see that every fish is well submerged in the brine. When packing up mackerel for sale cull out all ragged, rusty and dog-fish-bitten ones. Don't spoil your good name by putting them in with good fish, pack these inferior fish by themselves or take them to your dealer, loose.

About the mackerel purchased from Nova Scotia, by American dealers are repacked into smaller packages. On several hundred barrel shipments we made last season to U. S. A. we had to take the loss of half price for some ten barrels out of the hundred that were culled out, as they were rusty, ragged and bitten, and should never have been packed in with the good fish. To have a good, clean looking barrel of fish, it is necessary to have clean pickle. Do not use the old pickle if it is dark in color, make new pickle—it will improve the appearance greatly. Last season some fishermen who always put up first-class fish in every respect, said to us, "What inducement is there for us to put up a good article, when you pay my neighbour who puts up an inferior article as much as you pay me?" We may say here we have always paid the price for a first-class article and when we do not get it we lose money. So this season we expect to pay the best price for the best fish. Fish that are not up to a certain standard we cannot pay as much as those that are.

Herring

If we are to increase the demand for this good fish, we must put more care in the curing and packing of them. The majority of fishermen know quite well how to put up a nice package of herring but only a few do it. The Government is doing its part to improve this branch of our fishery, by insisting on a good tight, standard package, but, the fishermen must co-operate and do their best if we are to increase the demand and find larger markets for our herring.

It is impossible to make a good herring out of a stale herring that has been in the nets from twenty-four to thirty-six hours. These should all be put up for lobster bait, which will pay as much profit as good salt herring. There always is a demand for lobster bait. To have good herring they should be as fresh as possible and put under salt as quickly as possible consistent with being well cleaned. In dressing the herring use a sharp knife and see that all blood and guts are carefully cleaned out, then pass them through two or three clean waters after salting in packages, (half bbls. and whole barrels preferred), be sure and put pickle in each package if you want the herring to look plump and fat, you will save also in weight. If salted in larger packages be sure the pickle floats the herring, otherwise they will be a poor looking article and not nearly so good to eat. When packing up herring for market, have your pickle as clean as possible— strain it; nothing looks so bad as a lot of dirt and scales on the top of package when opened.

Only dealers like ourselves realize what it is to try and sell inferior and poorly cured herring. As with mackerel, so with herring, some men are careful, particular and honest, and put up splendid fish that make herring lovers anxious to buy them, while we regret to say, some men are careless, lazy and should we say dis-

honest, and pack up any old herring whether they are fit for human consumption or not. These last named have done a great deal to decrease the demand for herring.

We know we could extend our market considerably if we always had a first-class article to sell. People who like herring will always be willing to pay a good price for a good article, while a poor, dirty, ragged rusty herring is practically unsaleable at any price. So now, fishermen, it is up to you whether we get the best market and the best prices for our fish, or not, surely you will do your part.

Cod, Haddock and Pollock

As these are now mostly all sold fresh from the knife we would ask every man who splits a fish to use more care in doing so and see that all are split properly. In this district about all the medium and large cod are white-naped and eventually made into Boneless Cod and unless properly split there is a loss. Every fish should be split out to the tail, following the bone closely, also most splitters when taking out the back bone leave one inch or more too much bone in, this causes a great lot of extra work when cleaning fish before salting. Unless properly split you cannot make good looking dried fish either. We would therefore ask all splitters who have slighted fish this way in the past, to be more careful as it only means a few minutes extra in the day's work to do it right.

Last season this district paid the highest prices to fishermen for mackerel, herring, and cod, of any district in the Maritime Provinces. This proves that we are doing our best to give the fishermen the best possible prices, for their fish, and we should have the best fish that can be cured.

We hope every fisherman who reads this pamphlet will receive it in the spirit in which it is sent, and realize that by all doing our best we will eventually get the best markets and the best prices obtainable for our fish.

Replica of the Newfoundland Banks

Colonel Louis P.Bowler, who wrote the accompanying letter to the Financial News, London, forwards a copy to the Canadian Fisherman and suggests that it would be a playing proposition for some Canadian fishermen to handle:

Our colonies are our best markets, and for this reason alone should be financially supported in deve loping their resources, to increase the purchasing power of their European and native population. In this respect, West Africa especially appeals, as it is the nearest Colony to the Homeland, with a huge native population, eager to exchange its products, and purchase our manufactured goods.

Among one of its productive opportunities, calculated to assist in improving the export trade of this country, is the establishment on the West Africa Coast of a large fishing industry, especially as there lies on the Sierra Leone coast a replica of the Newfoundland fishing banks, containing a prodigious quantity of saleable fish, combined with cheap native labour, and an unlimited demand for "split, salted, and cured fish" among the millions of fish-eating people in Western Africa. It is quite possible for a well-organised local fishing industry to produce dried fish, and sell at half the present cost of imported fish, which wholesales at 9d. per pound, and secure over 100 per cent. profit, in selling at 4d.

The most abundant fishing area is situated off the Sierra Leone and Sherbro rivers, extending over 800 square miles, enclosing the turtle banks 45 miles in length, and two other banks 40 to 60 miles, where anywhere in 10 and 15 fathoms of water over sand and shells abundance of fish can be caught, besides on extensive flats, channels and estuaries at depths varying from 6 to 20 fathoms. It is worthy of note that along the West African coast from Morocco to Sierra Leone there exists a submerged shelf, or extended plateau, upon which the mainland of Africa rests. It commences north of St. Louis, where it juts out about 60 miles wide, increasing in width until abreast of Sierra Leone, where it is about 200 miles wide. The narrowest part is a little south of the Straits of Gibraltar, and abreast of Cape Verde.

This ledge constitutes the fishing ground. The markets of Milford Haven and Fleetwood are at present supplied with fresh hake by their trawlers, who come south to the Morocco coast.

A Rich Feeding Ground For Fish

It is on this ledge, or shelf, where the mainland African rivers deposit vegetable matter,sand, mud worms, and a profusion of marine edibles, with myriads of a small species of shrimp, thus providing an attractive bait to a multitude of ground and surface fish.

Two factors cause the fish to congregate here —one is, that these shelves, or banks, like those of Newfoundland, terminate abruptly on the brink of the great Atlantic abyss, where fish avoid the extreme depths, and flock to these narrow and shallower plateaus for feeding and breeding purposes.

The other is, that the cold currents of the Gulf Stream, which sweep down the Morocco Gambia, and Sierra Leone coast, bring down the northern fish, such as hake, ling, rocked, and ordinary cod, haddock, turbot, pollock, mullet, skate, mackerel,whiting, pilchards, herrings, gurnet, soles, plaice, and flounders, to intermingle with the southern fish, such as tarpon, tunny, barracouta, grouper, bonito, mangrove, Spanish and flying fish.

There is also a large supply of shell fish, such as lobster, crayfish, large prawns, rock and pearl oysters, clams, and cockles.

As an indication of the value of the split salted fish trade, Newfoundland exports in 1920 to Great Britain, America, Spain Brazil, Italy, and Greece amounted to $19.583,195.00.

(Note-While no doubt Canadian fishermen will be interested in the facts disclosed, it is doubtful if they could be greatly enthused in a commercial way. We have virtually limitless supplies of fish right at our doors. We are not interested in seeking new sources of supply, but in finding broader outlets, and if the writer could furnish some information on that score we vouche that he would quickly arouse interest).

Miss Angelina (to Captain Brown, who had been cruising in Alaskan waters)—I suppose, captain, that during part of the year the sun doesn't set till quite a while after dark in those northern latitudes.

Fish Inexhaustible--Species Not So

Fact that only sixty to seventy per cent. of catch is marketable has considerable influence on prices.

The supply of seafoods which may be obtained from our fishing areas is literally inexhaustible. When it is known that scientists estimate the quantity caught for human consumption is but five per cent of the total annual destruction by natural agencies, the truth of this will be more readily appreciated. It is calculated that about 7,000,000,000 herrings are captured for food each year throughout the world. Cod is caught also in great abundance. The aggregate of all species taken by fishermen in all parts of the world would be inconceivable. These tremendous numbers tend to agitate a fear for the future of the industry, but it is dissipated upon closer investigation. Marine species propagate in vast numbers, some depositing millions of eggs each season, comparatively few falling below 25,000 potential descendants. Nature makes provision for wastage and destruction by natural enemies, so that man's utilization of the vast food resource inappreciably affects nature's balance.

Some might be tempted to ask why it is necessary for the government to maintain artificial fish hatcheries to conserve certain valuable species. This is readily explained. The statement of exhaustibility refers to the species of the sea collectively. Such fish as salmon, though they spend much of their life and reach maturity in the sea, must get back to the upper stretches of the rivers to spawn. Indeed they can only be caught when they are on their way to these waters to reproduce. Also the fish in all our extensive interior fresh waters are of limited reproductive powers, and so can readily be overfished. The government in such instances employs close seasons when the fish are spawning and supplements this by artificial methods of developing eggs. To appreciate the efficacy of the latter a few additional facts must be known. In nature it is estimated that from five to eight per cent of the eggs laid by the female fish are fertilized and matured. By the artificial system the percentage is increased to as high as ninety-eight per cent. With the same number of parent fish the hatcheries can produce an infinitely greater number of offspring than could be relied upon in nature.

The Department at Ottawa operates thirty-six hatcheries across Canada, and eleven subsidiary stations. Each year more than a billion eggs are hatched. This may seem small in comparison with nature's propagation in general, but when it is considered that the billion is confined to commercially valuable species, the work is better appreciated.

Are due to Consumer

The point to which all this leads is that the restrictive regulations of the government and a costly system of conservation, are due entirely to the fish consumers' limitation of species for the table. The sturgeon has suffered seriously from this cause. There is danger of the Pacific salmon disappearing in the course of a few years. The halibut is being pursued farther afield. In street parlance these and some other species are being 'played t doeath'.

It is timely to reflect upon this situation. Why will our people not take advantage of the vast variety of fishes? Hundreds of delicious edible fishes caught by our fishermen never reach land. These men must make a living and it is useless to bring the food ashore if people will not buy it. At the same time the vast economic waste is deplorable. Only sixty to seventy per cent of our total catch is merchandizable. The specially selected species must bear the expense which otherwise would be carried by a great number of species. In other words consumers are compelled to pay higher prices because fishermen must spend time to pick out the species their epicurean tastes demand.

A great variety of fishes now unknown to the consumer could be readily placed upon the market in abundance. If the people would utilize this food, it could be procured cheaply. The trouble seems to be that consumers will not experiment with natural foods, although they do not hesitate to sample all manner of prepared foods, some of dubious value, at incomparably higher prices.

$400 A NIGHT ISN'T BAD

The smelt fishermen are reporting good catches down river, especially those operating on the North side. The big catch of one night, Saturday night last, was 4,700 pounds, by two men working together and who are said to be operating six nets between them.

The prevailing price for fish is 8 cents and 9 cents per pound, according to whether the fishermen will sell all hiscatch to one byer or devide it up. The big price is, of course, paid to those who will sell all to one buyer, as in this wag the byers gradually stifle competition. At any rate these men made a nice haul worth about $400 in one night. That pretty nearly approaches gold mining in its results.

This smelt industry is a big one, for it employs probably 3,500 people in the winter season. It would take a nice big factory to give employment to 3,500 hands.—Chatham (N.B.) Gazette.

THE ORDER IN COUNCIL THAT STOPPED FISHING WITHOUT A LICENSE OUTSIDE THE THREE MILE LIMIT

The following Order-in-Council was issued at Ottawa on the 29th of April, 1922:

"No one shall engage in salmon or lobster fishing, nor shall any one leave any port or place in Canada to fish for salmon either inside or outside territorial waters of Canada excepting under license from the Minister of Marine and Fisheries."

This order will show the reason why the R. C. M. P. were able to arrest the Japanese fishermen who thought they could get by if they fished outside the three mile limit. Hereafter they will know better.

Some Queer Seafoods One Strikes

Trip through foreign districts of big cities will give one education as to fish tastes of other people.

By L. LODIAN

(Reproduced from Scientific American)

"Fishermen's yarns, especially ones from those who pose before camras, are sometimes of such Munchausen veracity, that the very announcement of them begets an incredible smile. By fishermen, we mean here anglers, who fish for a pastime. But there are also many thousands, who, by force of circumstance, "Go down to the seas in ships". They too, have their "yarns" but here truth is stronger than ficton — and stranger too. Their "yarns" can be read, so to speak, in the different fish-marts or markets of Manhattan, in our foreign colonies. Here you see the purely commercial in fishdom; and what you would scarcely believe if told, you can see with your own eyes almost every day of the year. We refer to the many queer fish-products on daily sale in old Gotham town; and we illustrate a few of them direct from the actual exhibits as rounded up "one fine morning". But the present writer was familiar with all of them—and more—during multi-globe circuits in the years past. (It should be noted that most of these fish "queers" are also on regular sale among the foreign colonies of big European cities like Paris and London, and can be rounded up by diligent effort).

The devil-fish tribe, big and small, dried and fresh, are never missing from the stores of the Italian, Greek, Spanish, Turko-Espanol, and Mongol colonies of Manhattan. They range in size from small squid to giant cuttlefish—some of the latter are so huge that their tentacles or "suckers" reach out more than a dozen feet, and could encompass an ordinary row-boat.

The cuttlefish (or kalamar, as internationally known among the exotics) can also always be obtained, from one year's end to another, pickled and canned in its own ink. Opening a container, reveals a murky, inky mass; but it is quite delectable—as choice as potted lobster. In fact, devil-fish is at its best served up in this canned form, having already been steam-cooked and can be partaken of cold as it is or reheated. The liquid is a reliable conservant; it is the same sepia which, in more concentrated form, has been in use since remote periods all over the globe, being particularly valued by architects and draftsmen for its permanency:—The idea of eating a fish-product preserved in ink.

Sun-dried Oysters

Sun-dried oysters are always obtainable at Mongol stores throughout the country. They never use canned oysters. The bivalves are sold either loose or in wreath-form, spitted on ratan, and cricled (after drying) for hanging up in stores. They are never so satisfactory as fresh oysters. They are "mounted" dry, as they are, or stewed.

There is also a curious oyster-oil sold, but this is in cans, necessarily. There is some oil in the oyster; and the modus operandi is to take the mollusk in heaps, when all but dried out, and subject it to the ordinary oil-press. It is really an oil in emulsified form, since the natural juice of the oyster much concentrated, is there too. It is a dingy, brownish liquid of a decided oyster flavor. It is used in the preparation of instant oyster-broth—just add boiling water to a teaspoonfull—besides its uses as a condiment for salads, soups, et al. The residual oyster "cake" from the presses is braised in oil while still moist, and used as food.

Oyster flour, in impalpable farine-form, of a cream-white color, is a most creditable product, and is always obtainable. It is convenient for instantly-made stews, or oyster-gravy; or for sprinkling on thin bread-and-butter sandwiches. (A product of Virginia).

Lobsters, tails, sun-dried, are a great delicacy with the Greeks, and are imported regularly. There is no reason why they should not be prepared and marketed by American lobster-concerns, but our own folks know not this demand.

A capital, cleanly, and tasty kaviar is imported from the Hellenes and all along the Asia-Minor seaboard. It is the roe of the bashra — corresponding to our mullet fish—which is salted down, mild-cured, and sun-dried to a firm compactness which makes the article almost as hard as wood. Then it is steeped in and given an effective coating of beeswax. This will preserve it for years, and the slightly fragrant beeswax-film will hold its faint honey-like odor for as long. This is the real original Turkish kaviar (from the Arabic kabjar). The Russian "kaviar" is just a name borrowed from the Arabic, and the word is only used by the Russians in conversation or correspondence with aliens. Among themselves, they call it "ikra" which simply means roe. With its yellow beeswax film, this kaviar resembles somewhat a flattened banana. The interior has a refreshing odor and taste, and is ideal when cut into thin slices and served with sliced bread and sweet butter.

Then there is the giant single-piece kaviar-roe of the southern Italians and Sicilians. This is made from the big tuna fish. This big red-fleshed fish, with a body often the size of the body of a percheron or Clydesdale horse, it is often seen in the Mulberry-plaza region. But since it is too unwieldly to take into the store, it is sold piecemeal from the wagon or truck kept standing off the curb.

The tuna-kaviar is sun-dried to a point where nobody would ever recognize it as a dainty relish for the lunch-table. It resembles a piece of sun-greyed shriveled wood, appears as hard as wood, and falls with a thud, like heavy wood. The interior is dingy, yellowish, of most delectable and refreshing taste. The kaviar is bought as a whole roe, at a price of about three dollars a pound. It is never cut in retail-sale. The price ranges according to the size, from four to twelve dollars, or more.

Fish Almost Petrified

A Japanese mackerel-steak, as imported, resembles a petrified article. A box full of them would pass for an assortment of whet-stones just like those used by reapers. One would never suppose that these stone-like objects could be converted into juicy fish-steaks. There are however, the telltale flesh-markings; and a few parings of a penknife from the boxwood-like substance tells you, on tasting, that you are in the presence of a delect-

able bonito-steak for which the Niponese in America pay two dollars a pound. It is used sparingly, however, by the Orientals, who grate it for use in soup and salads. An American business man would be apt to keep it on his desk as a useful paperweight and a constant source of mystery to his friends. Each bonito yields four such "steaks". They are sun-dried without a particle of salt, then smoked thoroughly. The result is a stone-like product. It is perhaps the chief fish-product edible "queer" of the globe.

Another queer marine-product from the inland-sea are dried clams. They are sold loose, or spitted on split-bamboo, or ratan, when fresh, and thus dried. The so-called "bombai duk"—so much used by Orientals as a curry in rice-dishes—is a regular Niponese product. It is rotted fish "ripened" to the point where the cellular tissue breaks down through decomposition. Then it is sun-dried and put up in cans. The odor is disgustingly penetrating—so much so that one gets a whiff of it even through the supposedly impervious sheet-metal container. In use, the Asiastics take up a little of the light-brown substance and powder it between the fingers over their plates of cooked rice. It leaves a clinging skatol-like nauseous odor on the hands.

It is a singular commentary on the many faiths and creeds and notions prevailing amid the uneducated of Manhattan — and many of the part-educated for that matter—that a certain fish-product should be on daily sale here as a supposed cure for rheumatism. This is the eel-skin. It is sold in various sizes. The skin is tied around the arm, elbow, wrist, ankle or thigh, or elsewhere near the affected part. And there are those who swear by its effectiveness!

The frog-legs (fresh, and dried) on sale at fish bazaars, are omitted: also the braisel earth-worms and snails "on the shell", and canned stewed-snails. There are of course hundreds of fish "queers" in the fish republic of the globe; but this article is limited solely to the fish queers in commercial demand.

How Ontario Benefits by Fish Culture

The spring salmon, Oncorhynchus tschawytscha, is the largest and most valuable of the Pacific species of salmon. It is found through the region from the Ventura River, California, to Norton Sound, Alaska, and on the Asiatic coast as far south as northern China.

In the spring the body is silvery, the back, dorsal fin, and caudal fin having more or less of round black spots, and the sides of the head having a peculiar tin-colored metallic luster. In the fall the color is, in some places, black or dirty red. The fish has an average weight of about 22 pounds, but individuals weighing 70 to 100 pounds are occasionally taken. One was caught near Klawak, Alaska, in 1909, which weighed 101 pounds without the head. The Yukon River is supposed to produce the finest examples, although this supposition is not based on very reliable observations.

In most places the flesh is of a deep salmon red, but in certain places many of the fish, the proportion being sometimes as much as one-third of the catch, have white flesh. A few examples have been taken with one side of the body red and the other white, while some are found with mottled flesh. No reasonable explanation of this phenomenon has yet been given.

Spring salmon are persistent in ascending rivers to spawn. No matter how far the head waters of a spring salmon river are from the ocean, some of these fish will ascend until they are stopped by impassable obstructions, or the water is too shallow for them to swim in. Specimens have been found in the Yukon river over 2800 miles from the sea.

Its adaptability to new surroundings is demonstrated by the success that has followed its introduction into the New Zealand rivers. As a result of vigorous and systematic efforts inaugurated in 1900, after previous attempts had failed, the Government of New Zealand has succeeded in firmly establishing the spring salmon in that country, and it is now found in large numbers in many of its rivers.

Now Thrive in Lake Ontario

In the autumn of 1918, the Department of Marine and Fisheries in conjunction with the Bureau of Fisheries at Washington undertook the acclimatization of spring salmon in Lake Ontario. As many as 825,000 eggs of this species were furnished by the United States and transferred to the hatchery at Cape Vincent, New York. The fry resulting from these eggs were distributed in suitable tributaries of Lake Ontario by the Department River in 1919 as follows:—

434,500 fry and 149,500 fingerlings in Lake Ontario.

192,300 fry in the St. Lawrence River near Cape Vincent.

The following fry have been distributed in the most suitable tributaries of Lake Ontario by the Department of Marine and Fisheries, namely,—

1919	374,500
1920	433,200
1921	125,350
1922	194,500

The results from this distribution were first brought to this Department's attention in September, 1919, when it was reported that spring salmon from 5 inches to 7 inches long were quite plentiful in the Credit River.

In October, 1920, two specimens taken near Youngstown, New York, 9½ inches and 10 inches long respectively, were identified by Field Assistant Willis H. Rich of the United States Bureau, as spring salmon. He stated that both specimens were apparently of stream growth, and their small size indicated that they had not been to sea; that they were in their second year and that the growth in general was unusually vigorous as indicated by the wide space between the rings and the strength of the rings on their scales. The number of rings in the first year was considerably greater than usual, showing that the fish were well above the average size when they were one year old, and indicating that the conditions of the lake where they had undoubtedly spent their lives, were better than is usually found in their native streams, although not as favourable as those found in the ocean.

In October, 1921, a spring salmon was taken in the Bay of Quinte. It was a male fish, 33 inches long, weighed 3½ pounds and was in a spawning condition. An examination of its scales made by Dr. A. G. Huntsman, of the Biological Board, showed it to be in its third year, and would indicate that it was one of the fry distributed in 1919.

The indications are that this valuable food fish may become fully acclimatized in its new environment and that it will be a great addition to the already valuable fisheries of Lake Ontario, which are now maintained very largely by fish cultural work carried on on both sides of the boundary line.

Hydras In Lake Erie Present Problem

Doubtless destroy nets and may be cause of poisoning to fishermen and a menace to young fish.

WILBERT A. CLEMENS

University of Toronto

We seldom think of Hydra as of outstanding economic importance. However, in this connection some interesting data were obtained by the writer during the summer of 1920 while staying at a pound-net fishery on the north shore of Lake Erie near Merlin, Ontario. The fishery is located about midway between Rondeau and Point Pelee, and from it are operated 20 pound-nets in four strings, 5 pound-nets in a string. The strings are approximately three miles apart and this would mean about nine miles from the most easterly string to the most westerly. In midsummer all the nets were taken out of the lake, some replaced from a reserve stock, the others simply reset after being washed, dried, mended and tarred. This midsummer cleaning is necessary because of the algal and other growths which accumulate on the nets making them heavy as well as putting considerable strain on the nets, especially in stormy weather, through the obstruction of the free flow of water through the meshes.

All of the nets when lifted in late July and early August were loaded with a very conspicuous brownish-orange growth in addition to the bright green algal growths. At first sight diatomaceous ooze or a bacterial production was suggested but microscopic examination showed it to be composed of innumerable living Hydras. The nets were lifted into the characteristic flat-bottomed pound-net boats and brought to the dock. The boats were anchored 100 to 150 yards from the dock and the nets dragged through the water to cars on the dock in order to wash off some of the loose material, especially mud. In addition to the mud many Hydras were washed off and these gave to the water a brownish-orange color quite distinct from the lighter color of the mud. The bottoms, seats, etc., of the boats were covered with Hydras to the depth of from 1-8 to 1-4 in. and a quart jar was quickly filled by simply running a hand along the seats. A fisherman eight miles to the west and another seven miles to the east reported Hydra in apparently equal abundance. This means a distribution of at least fifteen miles along this part of the shore. The beach is sandy to gravelly with some large stones. Very little life was found on the bottom out as far as one could wade. However, out beyond the region of strong wave action there must be places of attachment for the Hydras other than the nets in order to account for the existence of the species from one fishing season to another, since in 1920 they had not reached sexual maturity by the first week in December when the nets were removed for the season.

Specimens of this Hydra were submitted to Professor Frank Smith of the University of Illinois who kindly stated that they without doubt were *Hydra oligactis Pallas* although absolute determination could not be made in the absence of gonads. He stated that the large size and numerous buds indicated optimum conditions of food and temperature.

Fishermen had frequently spoken about a poisoning which often affected them while handling the nets during the process of cleaning and mending. They said this occurred briefly after the nets had dried and were covered with a fine dust which they called tar dust. No poisoning was observed during this summer but the men stated that their hands and faces became inflamed and swollen especially if there were any cuts. The eyes were often affected also. Lack of time prevented carrying out any experiments but it seems quite probable that the poisoning could have been traced to the Hydras. The dust was composed of dried sediment and organic matter and certainly must have contained a high percentage of Hydra remains.

This account has been written to call attention to an economic problem in relation to the fishing industry, which awaits study. There would appear to be at least four points for investigation.

(1) The amount of interference and injury caused to the nets by these great growths.

(2) The question of the poisoning of the fishermen.

(3) Do these Hydra destroy young fish to any appreciable extent in open water? Beardsley in 1902 in Bull. U. S. Fish. Comm., vol. XXII, pp. 157-160, recorded the destruction of trout fry by Hydra in a hatchery at Leadville, Colo.

(4) To what extent do these immense numbers of Hydra reduce the entomostracan food supply of young fish and of mature fish such as the ciscoes? The latter in Lake Erie feed almost exclusively upon *Entomostraca* and if the Hydra are as abundant throughout the lake as they are along the fifteen miles of shore as described above they must be very serious competitors of these fish in the matter of food.

Since the above was written Professor Paul S. Welsh of the University of Michigan has informed me that he has been making a special study of Hydra in the Lakes of Northern Michigan.

BRAZILIAN EXPOSITION

The Service Bulletin (U. S. Bureau of Fisheries) for June referred to the preparation of a fishery exhibit for the exposition which opens in Rio de Janeiro on September 7, 1922. With the hearty co-operation of the trade and other interested persons, excellent progress has been made in the assemblage of exhibit material. As planned, the xhibit will include displays representing the New England offshore fisheries, the salmon industry, the sardine industry of Maine and California. the oyster industry, the fresh-water mussel fishery, the fish-canning industry, the by-products of the fisheries, and the bureau's relations with the industries. Because of limited allotments of space and funds the exhibit will of necessity be small. A report on the fisheries of the United States, the organization and functions of the bureau, educational opportunities afforded students of fisheries in the United States, etc., has been prepared for publication in English, Spanish, and Portuguese, as directed by Congress.

The Trek of the Mackerel

Editor *Canadian Fisherman*.—The mackerel scouts had ample occasion this spring to trail the schools to their breeding grounds. They appear to have done so, with a precision never attained before. The run was uncommonly abundant; the weather fairly clear and moderate; the fish showing up well during most of the northward trek, and everything as a rule favoring accurate observation.

It is the custom of the department to publish a mere abstract of those markings, from the perusal of which it is difficult to form a workable idea as to the main movement of those valuable fish in the migratory season. The men who go down to the deep in seiners, and even those who put out daily in small boats to use the drift-net, know more about it by actual experience than those who never come in contact with the occupation at all. The scouts have done well in tracking the numerous bodies of fish as they sweep along the shores of the Maritimes, and the information gleaned is worth more to the provincial fishermen in real money than the result of any other marine research...

I am asking you to publish the appended account, taken off the Halifax press from time to time, as the trailing proceeded on its course along the coast, around Cape North and into the Gulf of St. Lawrence. The general reader will note the good and sufficient reasons which, in addition to my first hand knowledge on the subject, make me still "adhere to the theory" of a coastwise migration of mackerel from the southern waters to the northern spawning areas, which need to be protected from destructive incursions by set-net, purse-seine or any other apparatus during the breeding season.

M. H. NICKERSON,

Oark's Harbor, N. S.

"Capt. Milne, of the scout Arleux, wirelessed yesterday morning that he sighted several schools of mackerel off Cross Island, working the eastward...Capt. Barkhouse, of the scout Arras, sent in the following message yesterday morning: "9.30 a.m. Little Hope bearing N. N. E. 18 miles, sighted large schools of mackerel working northeast and moving fast.' Later in the day Capt. Barkhouse wirelessed the following: '4 p.m. Coffin's Island bearing north 12 miles, one small school of mackerel sighted. Mackerel taken in nets (drifters) off Liverpool. Fish now approaching coast.'

"Capt. Milne, of the scout Arleux, wirelessed the following report yesterday afternoon: "The large body of mackerel rushing towards spawning grounds have arrived and are being caught by the seiners at Ship Bar Light, north eight miles. Five seine boats are now engaged taking fish.' Later in the afternoon, Capt. Milne wirelessed that the mackerel are moving eastward, and schooling off Egg Island.' Saturday afternoon, Capt. Milne sent in a wireless message which read: 'Several schools of mackerel now showing eight miles south of Port Beckerton.' Capt. Barkhouse, of the scout Arras, wirelessed as follows Saturday afternoon: 'Large schools of mackerel showing four miles off Country Harbor. Several schools working east close along the coast to White Head. Fish are holding the coast waters as they go east, and nets are getting large quantities of them.

"The mackerel schools have reached the Magdalen Islands according to wireless received from Capt. Milne, of the scout Arleux, sent via North Sydney. Capt. Midne's message reads: 'The large body of mackerel have now arrived at the Magdalen Islands, and are proceeding towards Prince Edward Island and Bay Chaleur.'

"Yesterday morning Capt. Milne sent the following wireless: 'Mackerel schooling in Ingonish Bay. Fifteen thousand in one trap. Have been here in large numbers during the past week... The first run of large sized mackerel have now passed the southern Nova Scotia coast and are proceeding towards the spawning grounds in the Gulf of St. Lawrence. The second run of mackerel, the small fish, are now due to arrive. Possibly the two bodies of fish have followed each other closely, and the spring run is nearly over.'"

DAIRY PRODUCTS GRADED

The Dominion Dairy Commissioner announces that the Dairy Produce Act has become the law of the land and that complete grading of butter and cheese will be enforced just as soon as the regulations could be drafted. Our interest in this is chiefly as a consumer and we look to the future for protection against that rancid mass for which we have been repeatedly mulcted to the extent of forty-five to forty-eight cents. The Dairy Produce Act will henceforth guarantee that when we buy butter we shall get butter. We shall have confidence in our purchases.

Does anyone suppose that the need for grading in dairy products is any more necessary that in fish? The arguments which proved the necessity for legislation in this case might with very little alteration be applied to an act similarly affecting cured fish. Yes, and smoked and canned, too.

NOVA SCOTIA FISH DISLIKE PULP.

During a visit of a representative of the Pulp and Paper Magazine to the mill of the Sissiboo Pulp and Paper Co., at Weymouth, N.S. there was an investigation of a complaint from fishermen that the white water, bark, slivers, etc., from the pulp mill interfered with fishing further down the river. Two Government inspectors were detailed to look into the problem. The complaint stated that rubbish from the mill had a tendency to fill up the nets and otherwise interfere with the smelt fishing industry. The inspection carried on by the Government men delegated by the Department of Marine and Fisheries found after an investigation lasting two days that the mill officials were doing their utmost to prevent anything from going down the river that would interfere with the fishing; in fact Mr. Frank Ouellet, manager of the Sissiboo and Clyde River mills spared no expense in improving the situation. The Government inspectors made some suggestions which the management was glad to carry out.

The "Crerar" of Newfoundland

History of Fishermen's Union story of achievement closely intertwined with career of Hon. W. F. Coker.

By COLIN McKAY

Hon. W. F. Coaker, president of the Fishermen's protective Union of Newfoundland, and Minister of Marine and Fisheries, it to the fishermen of the Ancient Colony all that Hon. T. A. Crerar is to the farmers of Canada—and more, in the opinion of many of his followers. "The man from the Backwoods", as Mr. Coaker is called, is the bogey of some business circles in Newfoundland and the storm centre of its politics. In thirteen years he was organized a powerful fishermen's union, built up a chain of co-operative stores, founded an export trading corporation, created a fishing port, established a daily newspaper, furnished with the most modern equipment, of the conditions complained of but is hopeful that withformed a political party, and, according to his political opponents, made himself master of the administration of Britain's oldest Dominion. A man capable of such a list of achievements in a short time is a force to be reckoned with; he is still in the prime of life, and seems destined to become an even more important factor in the affairs of this Dominion—unless, as his enemies hope and pray, his star sets as swiftly as it has risen. And his endeavors to help the fishermen achieve a greater measure of economic independence and political power have stirred up powerful and bitter enemies. In Newfoundland politics quarter is never given or asked, and Mr. Coaker is the chief target of the acrimonious attacks of the Opposition speakers and press. On the other hand the Fishermen's Leader commands the ardent admiration and enthusiastic loyalty of his followers. In the union meetings he is hailed as the "great emancipator". A writer in the Evening Advocate, signing himself "Fisherman's Son", compares him to Lycurgus, "the great legislator of Sparta, who, inspired by the political conditions of Lacedaemon determined to free its oppressed sons from their thraldom." And this writer, who admits he is carried away by his enthusiasm, proceeds: "In the face of opposition, prejudice and hatred, Mr. Coaker has done more, much more, than Lycurgus did for the Lacedaemonians, and his name will adorn the pages of history, and live until the stormy billows of the Atlantic cease to foam against the impregnable cliffs of his beloved island home."

History Of The Union

When a young man Mr. Coaker settled on a lonely Island in Notre Dame Bay on the north shore of Newfoundland, and in the intervals of shore fishing hewed a farm out of the virgin forest—one of the best farms, it is said, in the Ancient Colony.

Here, during the long winter nights, with his nearest neighbor miles away achoss the packed ice, he read farm journals, learned something of the co-operative movement among farmers in various parts of the world, and eventually decided to launch a similar movement the fishermen of his native land. In the early winter of 1908 he left his Island farm, and in a few days gathered together nineteen fishermen of the obscure little harbor of Herring Neck, and formed the advance guard of the army of fishermen who constitute the Fishermen's Protective Union, now, it is claimed, the greatest single political, commercial and social power in the land. "The Man from the Backwoods" then went from bay to bay, from tickle to tickle; but his message often fell on stoney ground—and his first year's work was discouraging. But he persevered, and in 1910, with several thousand men in his organization scattered around the rugged shores, opened an office in St. John's the capital. In this year the Union members demanded and obtained an increase in the price of cod-oil from $77 to $110 and some slight increases in the price of fish, while through their co-operative distributing agencies they obtained fishing gear and provisions somewhat cheaper than the merchants were supplying them. In the next two years the union grew rapidly and by 1912 had 153 district councils with a total enrollment of 15,000 members.

It had also 14 co-operative stores, a trading company for marketing fish, and a company publishing a daily paper in St. John's. Mr. Coaker for three years' labor had received the sum of $325, according to union officials; but of course on his numerous tours he had been boarded by the fisher folk and had mostly travelled in fishermen's boats.

Launched Into Politics

In the general elections of 1913 Mr. Coaker led the fishermen's union into the fight as a political party; and, though the introduction of religious questions into the contest resulted in the return of the Morris government, Mr. Coaker and a number of fishermen won seats in the house of Assembly. In the next few years Mr. Coaker" the "Man who must be Obeyed."
as a result of an interesting combination of political forces, he became Minister of Marine and Fisheries in the government led by Sir Richard Squires, and was soon being referred to by the Opposition press as "Boss Coaker, the "Man who must be Obeyed."

During the war the Squires Government organized a Board to market fish, which functioned on similar lines to the Canada Wheat Board. Its operations to have been satisfactorry while prices were high, and the sale of all kinds of food stuffs was an easy matter. It endeavored to carry on for some time after the war, but it could not hold up prices, and, at the demand of the fish merchants, it was presently abolished. However, when the fish merchants began to market their fish on a competitive basis, and without regard to what their neighbors were doing, prices continued to decline, and, though some may have done well enough, many who sent their fish abroad on commission, got very little, or lost on their trading.

Mr. Coaker has urged the re-creation of an Export Fish Board, under government supervision, to regulate the shipment and sale of the island's staple product. This proposal is vigourously opposed by many of the fish merchants, but seems to have many supporters among the working fishermen. On the other hand, there are influential fish merchants who are now advocating the formation of a voluntary association or pool of fish merchants to regulate the export of fish and in as far as possible to regulate the price. Something of this nature is likely to materialize, for the old practice of individual merchants rushing their fish to foreign markets, there to be sold on commission, gluts the markets, and brings down prices.

WHAT IS A BOAT?

Boston shipper gets Hot under collar over misuse of the Term.

By Captain CHARLTON L. SMITH, in "Boston Transcript."

Newspapers, and the public in general, have a tendency, of late years, to call every sort of a floating craft a boat.

This makes us sad. It makes us hark back to the days of our youth. We see in memory's mirror the water side of Condor and Border streets, East Boston, crowded with shipyards, spar yards, establishments with "railways and blocks," coopers' shops, caulkers' headquarters, rigging lofts, ship painters' shops mould lofts, boat builders' places and junk dealers' dingy cellars smelling of tarry hemp.

There was a dry dock off Atlantic avenue, at Fort Hill, then, and "The Avenue", as well as Commercial street, on the town side of the harbor, was plentifully sprinkled with the above-named businesses — all but the yards where they actually built ships.

Forests of masts met the eye. So many of them were square-rigged that each pier had numerous signs admonishing captains to cock-bill their yards before trying to dock. The Peabody Packets, ships mostly, could nearly always be found at Lewis wharf. And the pretty little white painted barks, hailing from Portland, Maine, were often lying at Union wharf. National Docks, at East Boston, always had a large fleet of fine, full rigged ships, of that beautiful style that came immediately after the clipper days. A full-rigged brig and a topsail schooner were occasional sights, while brigantines and barkentines were very plentiful.

But we must get to our theme. I cannot remember of hearing, in those days any misuse of the word boat. The present loose habit seems to the sailor man ridiculous. Let me spin a yarn.

In my deep-water days I happened to be an officer of the ship Paul Revere on her passage from Baltimore to San Francisco. We had shipped a nondescript crew, all of them signing on as A. B.'s, but many of them fresh from the plow, or from riding rods under freight cars.

The first mate, a typical Yankee marinet, had the deck one afternoon. I had just eaten dinner and was near an open window in my room.

"Boat on the starboard bow, sir!" hailed a well-meaning inlander, whom the mate had nicknamed "Jack the Ripper."

"Where away?" bellowed Mr. Stewart, rushing for the glasses.

"Why, right over yonder," cried Jack. "Don't yon see her smoke, sir?"

"You ding-blasted fool, don't ever announce anything that way so long as you's in this ballyhoo. Call a ship a ship, a bark a bark and a steamer, a steamer, or I'll break every bone in your tarnation body. I thought a vessel had been abandoned and you had sighted her boat."

This shows how the professional mariner values precision of speech. He is always methodical (until paid off), has a certain place for everything, for his very life depends on it. He never belays royal gear on topgallant pins.

But that troublesome, insidious little word of four letters is at first thought, used indiscriminately by the seafarer. And it is—to a certain extent. For although, generally speaking, a boat is an open craft, small enough to be rowed or sculled by oars, long years of custom have modified the use of the word. Even Mr. Stewart would have said that the Paul Revere was "a fine seaboat."

One says "mail-boat," though the steamship named be nearly 1000 feet in length. He says "Fall River boat, pilot-boat, tugboat"; yet these are large craft. Surely, the occasions when it is ermissible to say boat are arbitrary to a marked degree.

Amateur yachtsmen of great skill in the handling of their speedy toys, are nearly all of them given to this same misuse. In their case it does not surprise the seaman; for the gentlemen tars illtreat, or misname, most, every nautical term.

A publication, in New England, that has an immense circulation, persistingly, and irritatingly, offends. So much so, and in so many different columns and departments that the writers evidently have been ordered to do so from higher up. A heading appeared like this: "Boat Sinks, the Crew Take to the Boats."

DEMONSTRATIONS IN PREPARING OF FISH, FOR MOVIE SCREEN.

Fisheries Department Also Issuing Fish Cook Book to Help Housewives to Bring Out Good Qualities of Sea Food

The secret of making fish thoroughly palatable lies in the ability of the cook. Many, many times delicious fish are spoiled because of slip-shod or absolutely improper methods employed in the kitchen. If a well-prepared fish dish were placed before those of us who have very little respect for this variety of food, there is no doubt our aversion would be at once dispelled. The route, therefore, by which to develop an appreciation of sea food lies in the education of housewives in the secrets and tricks of purchasing, preparing, cooking and serving.

Realizing the all-importance of training housewives to do justice to this cheap and abundant commodity, the Fisheries Branch Department of Marine and Fisheries, has on the press a cook book, which covers much of this ground and in addition gives good practical recipes. is to be circulated through the retail fish trade.

The department is supplementing this work with a moving picture giving very detailed instructions to the cook. Government photographers visited Ste. Anne de Bellevue, Quebec, recently and the domestic science staff and pupils of Macdonald College staged extensive demonstrations. Dr. H. C. Harrison, principal of the college, very generously co-operated and provided every facility to make the film thorough and complete.

The film version explains the fundamentals which apply to the cooking of virtually every variety of fish on the market. About a dozen different kinds of fish are prepared—baked, boiled, fried and planked. It tells how to select fresh fish, how it should be wrapped by the retailer and cleaned for cooking. The preservation of left-over fish is particularly interesting and invaluable hints are furnished as to what to do and what not to do in cooking fish. The film is the most comprehensive thing of the kind that has ever been undertaken and experts in the work have given liberally of their time and energy to make it interesting and informative.

News Notes from Far and Near

Doris L. Corkum Ashore

The fishing schooner Doris L. Corkum is ashore at Cape Ballard, Nfld., and is likely to be a total loss, according to advices to her managing owners, Zwicker and Company, Lunenburg, on July 18.

Commission Refuses

The Railway Commission has refused an application by a fish merchant of Montreal to allow him to re-address boxes of fish at the railway station and have the express company deliver to several addresses instead of his place of business. In refusing the application, the board says that if it were granted, the same principle would have to be applied to all commodities handled by express, and "the railway companies stations would become simply a clearing house for commission merchants in holding their goods for re-addressing before express companies would complete the contract of delivery.

Given up as Lost

Captain John Powers, of Rockport, and the crew of five men of the Malica Enos, a 16-ton fishing schooner, have been given up as lost, the Interstate Fish Corporation, owners of the vessel, announced July 26. Nothing had been heard from the Malica Enos since she left for the Georges Banks, July 3.

Shark in Shad Net

A full grown shark weighing 575 pounds, was caught in a shad net belonging to Mr. Card, of Burlington, off Boot Island, Minas Basin, on July 22.

Eat Herring Food

Vast quantities of small jelly-like organisms, called salps, have made their appearance in the North Sea.

They have come from the Atlantic and have been found in millions in the herring grounds off the coast of Scotland. It is believed that the salps eat up most of the herring food within the limits of the invaded area, and this may account for the poor condition of the herrings caught in the drift nets.

From one Whale

From the hide of a single whale two hundred pairs of heavy boots, over a score of shoes, several yards of belting, and shoe-laces were made recently.

Government Buys Morgan Yacht

David W. Simpson of Boston has sold to the Canadian government, the former J. P. Morgan steam yacht Sagamore, for a sum said to be around $11,000.

The Sagamore will replace the Canadian coast patrol ship Restless, another former American craft, that saw service in the Spanish War. She will be engaged in the suppression of rum running off the Sydney coast.

The Sagamore is capable of doing 16 knots an hour. She is 161 feet overall, and has a beam of 26 feet. She will have mounted guns on deck and be well equipped to carry out her new work.

Rammed and Sunk

Sch. Elva L. Spurling, Capt. George Perry, Gloucester, Mass., was run down and sunk off Nauset, Cape Cod, August 2 during a thick fog by the collier, Lake Flournoy. Patrick Powers, one of the crew was killed and his body was recovered some time afterwards.

Life-saving Station Closed

It was announced from the Department of Marine and Fisheries August 1, that, taking effect at once, the department had closed the Bayview life-saving station, which is immediately inside the gut at Digby, N.S. The life-saving station at Westport, Briard Island, was also officially closed today.

Thirty Sperm Whales

The fishermen of Keels, Bonavista Bay, Newfoundland, secured thirty sperm whales out of a school which appeared off that place early in August, and were still plying their harpoons vigorously and successfully.

If the fishermen can dispose of the whales they will make big profits, but they are faced with a problem in finding a market, as all of Newfoundland's whale factories have ceased operation.

A 400-pound Swordfish

A three-hour battle between a giant swordfish and the Boutilier Brothers, of Seabright, which took place off Shut in Island, N.S., August 9, ended with victory for the fishermen, and the four hundred pound monster was shipped to Boston next day.

American Fisheries Society Meeting

The next annual meeting of the American Fisheries Society, will be held at Madison, Wis., September 6, 7 and 8. Plans are being worked out for a number of interesting features.

French Trawler Wrecked

In a message via Cape Race to the Naval Staff at Halifax, August 5, St. Pierre advises that the French trawler, André-Pierre, ran ashore on Miquelon Island this morning and is a total loss. Her crew was saved.

How Chinese Buy

"The European of the Middle East," says the Canadian Trade Commission, "buys an article on its reputation. On the other hand the Chinese and native races buy wholly on the "chop" system. A "chop" is the mark of a well-known brand of goods imprinted on the label, or the tin or other container. It is of no use to attempt to sell the Chinese or native races anything with merely the maker's name on the wrapper. Overseas exporters must also exercise great care with regard to labels and wrappers.

"For example, a consignment of salmon arrived at Singapore some time ago, and turned out very poor. The

label on the tins in this consignment was that of a fish with the tail turned down. For some considerable period afterwards it was quite impossible to sell salmon throughout the territory under any similar label, no matter what the reputation of the packers and importers might be.

Fisheries value decreased in 1921

The total value of the product of the fisheries of Canada in 1921, was $34,930,935, compared with $49,241,339, in 1920, a decrease of 14,310,404, or 29 per cent, according to a preliminary scheme issued by the bureau of statistics. Decreases from 1921 are shown in average values of nearly all kinds of fish marketed fresh and prepared. The quantity of salmon caught and landed dropped from 1,284,720 cwt. in 1920, to 878,124 cwt. in 1921, and the total value as marketed in the different forms from $15,595,970, to $9,305,763.

The catch of lobsters decreased from the previous year by only 6,360 cwt., but the decrease in total marketed value was $2,009,052. Cod, halibut, whitefish, mackerel, pickerel tullibee, perch and oysters, show increases in catch and decreases in marketed value. Herring, haddock, sardines, pollock, hake and cusk and pilchard show decreases in catch as well as in total marketed value.

May Take Over Booth Plant

An attempt is being made to form a company composed of St. John N. B. capital which would take over the big Booth Fisheries Company sardine factory in St. John. This plant, which is the biggest sardine-packing plant in the maritime privinces, has been idle most of the summer, although an announcement was made that the plant would be utilized all through the sardine season. St. John fishermen are of the opinion that the plant could be operated at a profit this season and are endeavoring to secure sufficient capital interested to negotiate the transfer of the property. The Booth factory is in good condition having been recently renovated.

Lower Express Rates

The Express Traffic Association recently issued a new schedule of rates on fish from shipping points in the Maritime Provinces, Quebec, Ontario, Manitoba and British Columbia, to American destinations. The new rates, which as a general rule are reductions, become effective September 11.

Cannot Tax Others and Remain Untaxed Herself

W. A. Munn, St. Johns, Nfld., supports condemnation of the Newfoundland Government's export tax on fishery products. In a letter to the St. Johns Telegram he says:

"Canada has threatened retaliation on us, but we should thank her Government for this timely warning. It may be an easy matter for us to arrange the "Status Quo" with our sister Dominion, but it will be a very different matter when our foreign buyers start their retaliation for our mal-administration.

"We are breaking our Reciprocity Treaty with Greece, both in spirit and letter.

"The Spanish Government have increased their duties on our fish, and are now negotiating reciprocal arrangements with France, Norway and Iceland, which are expected to come into operation next month.

"Our Board of Trade has been protesting against the excessive charges recently put in force against our shipments for Portugal. The British Ambassador at Lisbon states that the Portuguese are perfectly within their rights, and he cannot promise any expectation of relief.

"The whole matter boils itself into a nut shell. We have not a leg to stand on in negotiating for reciprocity or reduction of any foreign taxes while our Government places an export tax on our fish shipped out of this country. If our fish can stand an export tax, it can stand any amount of taxes that foreign countries like to pile on us.

"The last mail from the Mediterranean markets brought the news, that the French merchants of Bordeaux are pushing the scale of the St. Pierre Lave (soft cure codfish) and promise it $1.25 per quintal cheaper in Spain, Italy and Greece, than our genuine Labrador codfish, and this they are enabled to do owing to the bounty given by the French Govt. on all their codfish, shipped to these countries.

"What a comparison between the Newfoundland Government, that places an export tax on our fishermen, and the French Government that gives the St. Pierre fishermen $1.25 per quintal. Where do our Exporters fit in under such circumstances?

We recently heard what "Idiots" the Canadian Government are for increasing their postage rates on us, but let us first consider how far we have proceeded in our folly? There is little wonder that our exporters refused to give out supplies this spring, and the end is not yet."

Swordfish Puts up a Terrible Struggle

How an infuriated swordfish, maddened with pain after being harpooned and seeking to escape from its tormentors, attacked the little fishing steamer Nyoda and drove its sword into the bow, then led its pursuers a merry four-hour chase before succumbing, was told last week when the vessel reached the South Boston Fish Pier. In the starboard bow was a puncture, a foot above the waterline and an equal distance from the stem. Before the Nyoda leaves again, the damaged plank will be replaced.

Captain Charles Nelson, the skipper, in telling the story of the fight to conquer and capture the 350-pound fish, said the adventure took place last Thursday on Georges Bank. The big fish, lazily sunning itself on the surface proved an easy target for the harpoon which was hurled from the pulpit of the Nyoda with deadly accuracy, lodging in the back. Diving, the fish swam under water for a short distance and came up near the steamer, lunged at her and the sharp sword buried itself into the wood to a depth of three inches. A lily iron, with fathoms of rope attached, was then thrown and found its mark. Frank Miles put off in a dory, armed with a second iron and thought he would close up the affair.

He was destined for a surprise, however, for the now enraged monster, bent only on getting away and suffering untold agony, darted away at full speed dragging the dory along at a speed of six miles an hour. Through mile after mile of blood-stained water, the fish drove on an erratic course, vainly trying to shake off the cruel irons. The Nyoda followed, with her crew shouting encouragement to Miles, who seemed to be enjoying his unexpected ride. At the end of four hours, the unequal contest ended and the swordfish yielded to the terrific pain. Death came quickly and the fish was captured.

Replaces Stevens

W. G. McQuarrie, Conservative member for New Westminster, British Columbia, has been named to act in lieu of Hon. H. H. Stevens the commission recently appointed to investigate the condition of the fisheries in British Columbia.

Swordfish More Important Than Sydney Steel Industry

Swordfishing out of Cape Breton ports bids fair to become a temporary rival, as an industry, of the steel manufacture in Sydney, according to the Sydney Post in an article forecasting record breaking shipments of swordfish to Boston during the season now commencing. Last season the shipments from Louisburg to Boston, alone, amounted to well over a million pounds and this volume will likely be far exceeded, during the present season if the expectations of fish buyers in Cape Breton from New England are fulfilled. It has been said that the people who engage in the swordfisheries in Cape Breton outnumber those employed by the steel plants. The fish are caught, cleaned, iced, boxed and shipped in a special fleet of refrigerator cars by the most direct route to Boston. Louisburg is the starting point of the Nova Scotia fleet of one hundred sail which will go after the swordfish this season, but there will be many other crafts engaged in the fishery including a few from American ports.

Nova Scotia fishermen have, during the past few years, made Cape Breton ports their headquarters, as it has been found that the fish strike that coast in larger quantities than in any other locality during the migration from the southern banks. The first kill is generally made the latter part of July in the waters between Scattarie and Guoin Island. The season lasts about five weeks then the fish disappear and are seen no more until next season when they commence to run off the American coast. Already American fishermen have made large catches and in four days, July 10 to 14, 31,000 fish weighing on an average of 250 pounds each, were landed at the Boston wharves. A steady market for this enormous catch was found at 13 cents a pound on board ship.

Eels Breed in Western Atlantic

Eels breed in the western Atlantic and the young come into the Mediterranean through the Straits of Gibraltar. This fact is said to have been definitely established by the Danish Biological Expedition on board the Dana, according to a report sent by one of its members, Dr. Johannes Schmidt. In the long stretch from Algiers to 300 miles west of Madeira the expedition, he says, caught a great number of young eels which proved to decrease in size gradually from east to west, which was to be expected if their breeding-place is the western Atlantic.

Another Competitor Arrives

Fishermen in England have been worried over the inroads upon their home market made by Danish fishermen employing the seine-net. They are hardly likely to be consoled on learning that Swedish craft have been equipped with similar gear to help supply the same market. Undoubtedly this competition will revolutionize the fishing methods of the Britisher.

Ottesen Patent Not Profitable

Much has been said in recent years about the Ottesen method of brine-freezing, although it has had little commercial use on this side of the Atlantic. Considering the very favorable results obtained from the system it is surprising to learn that the Danish company which bought the patent rights and incorporated with a capital exceeding $2,000,000, suffered a deficit last year of more than $25,000.

COURSES AT FISHERY COLLEGE

In view of indefiniteness in connection with the curriculum to be adopted in the technical school for fishermen for which the Nova Scotia government has made a grant of $5,000, the following announcement of short courses next year at the College of Fisheries, University of Washington, Seattle, is of timely interest. The school opens on January 4, and continuous to March 1, 1923. While it is primarily for the benefit of persons engaged or interested in some phase of the fishing industry and who desire to increase their efficiency, none who wishes to take the course is excluded. The college is equipped with the necessary equipment for practical demonstrations and illustrations in all courses.

The Fisheries of the Pacific. — Two lectures per week. Professor Cobb. The history, extent and methods of the fisheries of the countries bordering on the Pacific Ocean.

Canning of Fishery Products — Two lectures and one laboratory period per week. Prof. Cobb, Mr. Anderson, and others. The theory and practice of canning, together with demonstrations on such species as are available.

Curing of Fishery Products — Two lectures and one laboratory period per week. Prof. Cobb, Mr. Anderson, and others. The mild-curing, pickling, dry-salting and smoking of fishery products are treated of in detail, together with demonstrations on such products as are available.

Scotch and other Methods of Curing Herrings — Eight lectures and laboratory work. Mr. Anderson.

Classification, Habits, etc., of Pacific Economic Aquatic Species. — One lecture and one laboratory period per week. Prof. Kincaid.

Fish Culture — Three lectures and one laboratory period per week. Prof. Crawford. The theory and practice of hatching salmon, shad, trout, whitefish, cod, lobster and other marine and fresh water species.

Pond Culture — Two lectures and one laboratory period per week. Prof. Crawford. The location and building of fish ponds; the proper stocking of same; the rearing and feeding of the fish, etc.

Fesh-water Plants — One lecture and two-hour laboratory period per week. Prof. Frye. The recognition, propagation, and relative merits of those plants having an important bearing on fish culture.

Bacteriology of Foods — Two lectures and one laboratory period weekly. Dr. Weinzirl. A brief study is made of the technique of handling bacteria, but most of the time is given to the bacteriology of fermentation, putrefaction, sterilization and sanitation. Of especial value to cannery owners, superintendents, foremen and professors.

Food Laws — Study of federal, state and foreign laws regulating the sale of food products. One lecture per week.

Elements of Navigation—Two lectures per week. Compass and compass corrections. Charts and their uses. Location positions by soundings with the aid of charts. Plane sailing and coast navigation. Use of the traverse table and dead reckoning. Use of the almanac and the sextant. Latitude from noon sight on sun. An elementary course requiring no mathematics beyond a knowledge of arithmetic.

Short Course in Gas and Oil Engines for Fishermen, etc. — Two lectures per week. Prof. Wilson.

Emergencies—First Aid to Injured — Ten lectures. Dr. Hall. What to do in case of accidents; how to use bandages; the treatment of shocks, bruises, cuts, burns and poisoning. Demonstrations.

Further information may be obtained by communicating with Dr. J. N. Cobb, director of the college.

PACIFIC COAST SECTION

Advisers to Royal Commission



J. A. MOTHERWELL



J. J. COWIE

J. J. Cowie, fishery expert at headquarters of the department of Marine & Fisheries, Ottawa, and Major J. A. Motherwell, chief inspector of British Columbia fisheries for the federal department, have been assigned to advise the Royal Commission which is now on the coast to investigate fishery matters generally on the Pacific. Mr. Cowie is well known throughout the country and shares with Major Motherwell the confidence of the entire industry.

The fishing industry as a whole in the maritime provinces this year promises to be a tremendous success. Reports to hand indicate that fishermen are in splendid spirits and are very optimistic for the future.

"Alaska Red"

The Department of Marine and Fisheries, Ottawa, has ruled, under authority of the Meat and Canned Foods Act, as amended at the last session of Parliament, that canned Alaska Red Salmon imported for sale in Canada after the first of September next must be sold under the name of "Alaska Red" only. The name "Sockeye" must not be shown on the label in addition thereto.

All cans of such fish imported prior to the date mentioned above may be sold as at present marked.

Halibut Supply Scarce

The halibut catches on the Pacific Coast are not at all large so far this season. There may be several reasons for this; want of demand, the fact that independent small boats are after salmon and the fact that halibut are really scarce and the fishermen have to go long distances for them. In any event the fresh supply is not at all large.

Salmon Industry Bound for Destruction

Northern rivers following the course of Fraser, declares Dr. Gilbert—1921 pack only fifty per cent. of previous 10-year average.

The Report of the Hon. William Sloan, British Columbia Commissioner of Fisheries for the year 1921 has just been issued by the King's Printer. It is a concise but comprehensive paper. As usual it deals principally with the salmon fisheries of the province, contains statistics for the years 1920 and 1921, reports from the principal salmon spawning areas, and a valuable "Contribution to the Life History of the Sockeye Salmon" by Dr. C. H. Gilbert. Too much cannot be said of the forceful manner in which it deals with conditions that threaten the destruction of our salmon supply. It is a report that will prove of value to the Dominion Fishery Commission that is to sit in the province this fall.

The value of the fishery products of Canada for the year 1920 totalled $49,241,339, of which B. C. produced $22,329,161 or 39 per cent. For the tenth consecutive year British Columbia again leads all the provinces in the value of her fishery products. Her output for 1920 exceeded that of Nova Scotia by $9,586,502, and it exceeded that of all the other provinces combined by $8,160,742.00.

The catch of salmon in 1920 was valued at $15,129,348, a decrease from 1919 of $2,407,818, and $2,077,897 less than in 1918. The price received for the pack of 1920 was relatively considerably higher than in 1918 and 1919, but the total pack was much less than that made in those years.

Only 50 per cent. of Average

The total salmon pack for 1921 was less than 50 per cent. of the average pack for the preceding ten years, and totalled but 603,548 cases, compared with 1,187,616 cases in 1920, 1,393,156 cases in 1919 and 1,626,738 cases in 1917. The catch in every district shows a decline.

The total catch in the Fraser District of the province gave a pack of 107,650 cases, of which sockeye produced but 39,631 cases as against that of the preceding fourth year of 148,164, and 719,796 eight years ago. The total pack of sockeye in the entire Fraser River system, which includes that of the State of Washington, in 1921 was but 142,598 cases as compared to 559,702 cases in the preceding fourth year and 2,385,524 cases in the preceding eighth year. The pack of sockeye in that system in 1921 was less than 6 per cent. of that of the big year 1913. The full effect of the blockade in the Fraser Canyon at Hells Gate in 1913 and the heavy drain made on the remnants of that run in 1917 is now fully manifest. The run of former big years has dwindled to less than the average of recent lean years. The Fraser is fished out of sockeye. The big run has been destroyed.

There was a marked decline in the catch of all species of salmon on the Skeena, the catch of sockeye being the smallest ever made there. It totalled but 41,118 cases. The catches of sockeye at Rivers Inlet and the Nasa River were also the smallest ever made.

Northern Rivers following Fraser

In commenting on conditions in northern waters the report states: "It becomes more and more apparent from a study of the records of the catch of sockeye and the reports from the spawning areas that the runs of salmon to our northern waters are being rapidly depleted, and that unless greater protection is given them than has been afforded in recent years they will go the way of the runs to the Fraser. They cannot stand the drain that has been, and is now being made upon them. When it is shown that in District No. 2, our Northern waters, (1) that there has been since 1912 a material decrease in the catch, notwithstanding that there has been an increase in the amount of gear used, (2) a great increase in the area of waters in which fishing is conducted, and (3) a great increase in the price paid for fish, it is evident that fewer fish are seeking entrance to the spawning area and that the escapement is less."

The report states that the record of the sockeye catch on the Skeena for the ten years 1902-1911 shows that it was 26 per cent. greater than it was in the following ten years, notwithstanding that in the latter period the amount of gear used was increased from 12 per cent. to 30 per cent. and the price paid for the fish was from 20 to 250 per cent greater, and the waters fished, far more extensive than in the first period.

The sockeye catch at Rivers Inlet for the ten years 1902-1911 produced a pack 26 per cent greater than was made in the following ten years, notwithstanding that in the later period there was an increase of 27 per cent. in the number of nets employed. Up to 1912 the price paid for sockeye did not exceed 10 cents. From 1912 to 1915 it was increased to 12½c. and for 1916-1919 it was increased to an average of 24 cents, and in 1920 the fishermen were paid 30 cents.

Analyses Situation

The seriousness of the situation in our northern waters is further made manifest by the evidence submitted in Dr. C. H. Gilbert's analysis of the sockeye runs to Rivers Inlet, the Skeena and Nass Rivers, in 1920 and 1921, which is to be found in the appendix of the present report. In his 1919 report on the Rivers Inlet run, Dr. Gilbert commented on the prospects for 1920, calling attention to the fact that the brood-years which would be responsible for the run, exhibited a wide disparity. The five-year-old fish in 1920 would be derived from eggs laid down in 1915, when the pack of Rivers Inlet sockeye exceeded 130,000 cases and was the largest ever put up in that district. The four-year-old fish, would be descendants of 1916, with a pack of less than 45,000 cases, the smallest of any recent year." The results during 1920 will possess more than usual interest for in the two brood-years of that season we find contrasted, as above stated, the poorest and the very richest years of which we have a record. It will be interesting to observe whether the five-year age-group will appear in 1920 in overwhelming proportions." His study of that run disclosed such to have been the case. The run was gratifyingly large, after a series of four very poor years. It was practically all derived from 1915, the proportion of four-year fish was but 5 per cent. of the total run. That means 115,000 of the 121,000 cases

of 1920 were the results of the 1915 brood. "If we assume," he states "that the packs of these two years give reliable indications of the size of the runs, then the four-year fish that developed from the 1915 brood represented 18 per cent. of the total progeny of that brood. It is facts of this nature that lead us to call the Rivers Inlet cycle predominantly one of five years, in contrast to the Fraser cycle, well known to be one of four years."

Dr. Gilbert shows that the Skeena River sockeye run of 1920 agreed with that of Rivers Inlet in being derived in part from a good brood-year and in part from a very poor year. Like the Rivers Inlet and the Nass River colonies of sockeye, the Skeena is dependent more on its five than its four-year old members and thus approximates a five-year cycle. The average percentage of the five-year group in the eight years from 1912 to 1919 is 60 per cent. and the highest attained in any year was 75 per cent. But in 1920, the five-year group comprised 82 per cent, and must be attributed to their favourable brood-year, in conjunction with the very poor brood-year for the four-year fish.

Eventual Destruction Inevitable

The salient features of the sockeye run to the Skeena in 1921, Dr. Gilbert states, are best brought out by a comparison with the run of 1920. The latter was produced by the good brood year 1915, and the poor one of 1916. The result was a run of medium size, over four-fifths of which were the progeny of 1915. The run of 1921 had as antecedent two extremely poor brood-years, the worst, with a single exception, that has hitherto occurred on the Skeena. The result of this portentous combination was in 1921 a still lower level of production than the Skeena has previously attained. That pack of only 41,000 cases in 1921 registered a further decline of 35 per cent, compared with the extremely meagre yields of the two brood-years that produced it. Discussing this feature Dr. Gilbert states:

"If the salmon runs were enemy forces that we were desirous of annihilating, no more certain method could be devised than destroying them thus in detail. The detachments appearing each year operate wholly independently of those that immediately precede or follow. If we succeed in destroying only one or two annual detachments in a five-year cycle, the result becomes cumulative, and the eventual destruction of the run is assured."

"It cannot too often be urged that a rational policy of conservation must prescribe a large annual safety factor. We must continue each year to provide for the escape of larger numbers of spawning fish that are necessary to ensure adequate production during the seasons in which conditions are favorable. A rationally controlled stream will show its spawning grounds each year seemingly over-populated. This is nature's method of preventing serious depletion during the not infrequent years when conditions are unfavorable for successful propagation and growth, and there is no other safe method. Failure to observe this obvious precaution must be held responsible in no small measure for the certain depletion with which all our salmon streams are threatened.

Occasional Good Years a Deception

"The appearance of occasional good years in the course of a declining run is customary and to be expected. They should not serve in any degree to allay our apprehensions. Poor years also, it is true, have occurred during the most prosperous periods of productivity in our streams. But in a declining salmon run the poor years become more numerous, they infallibly in the long run produce their kind, and they fall to lower and lower levels. The average production for a series of years can always be depended on to tell the tale. With these facts in mind, no one can doubt the serious condition we are fast realizing on the Skeena and, it may be just to remark, on all the great salmon rivers of the province."

"It is impossible to know in advance the utmost extent of the drafts that can safely be made on the run of any stream. Cannery restrictions and adequate boat-rating must always be considered tentative measures. The situation is one that calls for solicitous inspection and constant watchfulness. Regulations should be subject to annual revision on the part of responsible officials closely in touch with conditions as they develop."

The appendix of the report contains detailed reports from the principal salmon spawning areas of the province, the salmon pack in detail and the record of the pack in all waters since 1915.

Copies of the report may be obtained on application to the Provincial Fisheries Department, Victoria.

SYMBOL OF SUPREMACY



The ...ophy for which American and Canadian fishing schooners ... compete this fall off Gloucester — Now held by Canada.

More White Fishermen Will Cooperate on the West Coast

The fact that the number of Japanese licenses was reduced this year will see a larger number of white fishermen working the boats on the west coast of Vancouver Island next year. There are quite a few new white fishermen this year and this number will be increased next year and those new ones who had not the experience this year will be in better shape to produce during future years. This is certainly encouraging.

Canned Salmon Competition

During the month of April, in Vancouver, B. C., F. A. Gosse and Co., that progressive firm of canned salmon brokers, afforded the canners and brokers of British Columbia, Puget Sound and Alaska an opportunity to compare the quality of Japanese-Siberian red salmon with Fraser River and Puget Sound Sockeyes and Alaska Reds.

A large delegation gathered in the cutting room of F. A. Gosse and Co. when the samples were cut. These consisted of both flats and halves of the Siberian pack and halves from Puget Sound, Fraser River, Smith Inlet and Skeena River, also Alaska talls. This inspection was confined to the contents of the can and not to weights or lacquering.

The results showed without doubt that the quality of the Siberian pack was not as good in several respects as the coast pack but this does not mean that the Siberian pack will not sell. This is the first time there has been a comparison of these packs made so that all would have a chance to see the fish.

The Siberian pack is not as good in color as the coast pack and does not have the oil that the coast pack has. There is also a slight crab-like flavor and the packing is not as good as the coast pack.

With all these points in mind it is just as well, however, that the canners on the Pacific coast do not loiter on the job but keep pushing their goods in every way possible as the Kamchatka people have secured a good foothold with their publicity methods and certainly will not stop at what they have accomplished in so short a time.

The start made by Col. Cunningham should be followed and the publicity he accomplished on behalf of the pinks should be continued with a strong selling campaign to secure a solid footing for this brand of canned salmon.

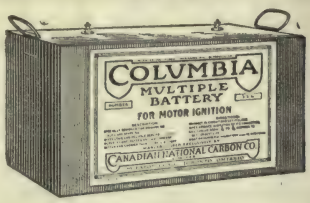
Marketing Canned Salmon on Prairies

The Wallace Fisheries Ltd. are pushing their KILTIE BRAND on the prairies just now and getting a ready response to their publicity. This progressive firm have been pushing their canned fish for some time now and using farm papers to bring their brands before the rural public with good results.

Mr. F. E. Burke, the Genl. Mgr. of the Wallace Fisheries Ltd., believes that when you are putting up the best fish on the coast that you should tell the public about it and they will make the right decision when they make their food purchases.

Close Season Curtailed

The Government has curtailed the weekly close salmon fishing season at Rivers Inlet, B. C., from midnight on Friday to six P. M. on Sunday for the balance of the 1922 fishing season. This step was taken as the result of a request submitted by the canners and fishermen. The need for the curtailment arose out of a dispute between the canners and fishermen at Rivers Inlet. During the dispute fishing was suspended for several days, and as a result a number of fish escaped to the spawning grounds.



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Official Organ of the Canadian Fisheries Association

VOL. IX GARDENVALE, P. Q., SEPTEMBER 1922 No. 9

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Official Organ of the Canadian Fisheries Association

A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada, and Technical Education of those engaged in the Industry.

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Canada, Newfoundland and Great Britain - $2.00
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Published on the 24th of each month. Changes of advertisements should be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. HARPELL, President and Managing Director,

GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express - - - - Ste. Anne de Bellevue, Que.

Eastern Manager, A. S. Christie, Gardenvale, Que.

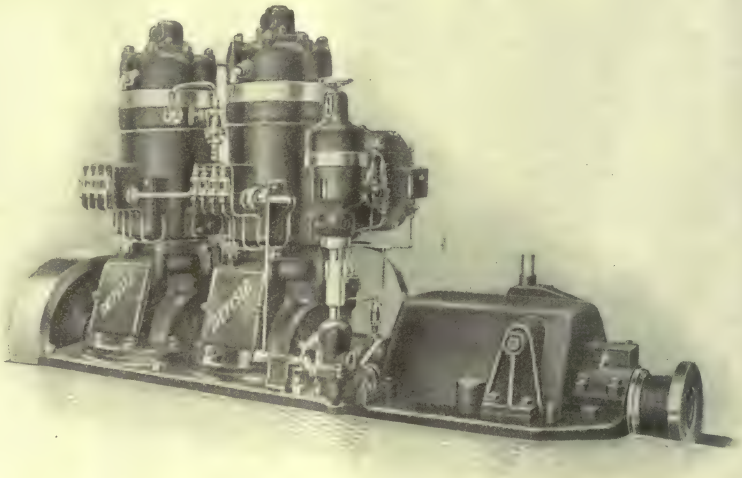
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EDITORIAL

JAMES H. CONLON, Editor

COMMISSION FAVORS REFORMS

Judging by information which reaches us from the Pacific coast, our British Columbia friends have not neglected to properly and forcibly advise the Royal Commission which, during the past month, studied numerous fishery problems there.

The commission completed its hearings in Vancouver on September 11. A. L. Hager, president of the Canadian Fisheries Association, appeared there as a witness, along with other members, and strongly urged the separation of the fisheries department from the marine department at Ottawa and the appointment of a minister of fisheries, or as an alternative, the appointment of a deputy minister. It is gratifying to learn that every member of the commission was strongly in favor of the recommendation and there appears every likelihood that the government will be advised to adopt it.

Another subject on which the commission was unanimously agreed was the establishment of a close season for halibut. We hope that the commission's report is submitted in time to have a close season this year. As we have stated more than once in these columns the lethargy which has characterized the administration of the halibut fishery is nothing short of criminal. A halibut takes many years to mature and during the propagating season it is lacking in the rich qualities of food which make it so popular at other times. If we were trying to rid the Pacific waters of halibut we could not do so more effectively that by allowing the present system to continue.

The Royal Commission is still in the west preparing its report to the government and the daily press advises that it will include among other matters the creation of a separate government portfolio of fisheries, remedies for the rapid depletion of salmon along the British Columbia coast, embargo on fresh salmon entering the United States, closing of the Frazer river to all fishing by agreement with the United States, the matter of issuing fishing licenses to Orientals and the setting of fixed seasons for fishing.

The commission has worked hard and British Columbia fishing interests have done everything to properly post the members. Now it is hoped the government will take measures to give effect to the recommendations presented to it.

GET MORE OUT OF EQUIPMENT

It would be difficult to suggest anything of greater practical value to fishermen that a few hints on extending the life of their gear. Though the prices of twine and the numerous other items of their equipment have declined considerably they have not dropped in proportion to the shrinkage of fish values. This means that their overhead is relatively much heavier than it was during the peak-price period just following the war, and if they are compelled to renew and renew their gear with the existing ratio between the cost of equipment and the market price for their commodity still maintaining, they are not going to tuck many dollars of profit into their jeans.

Hence we were moved to investigate the situation and in a report recently issued in France we found valuable information. The article published in this issue has been denuded of unnecessary scientific verbiage and has been rewritten more than once to make it as simple as possible to understand. The advice contained in the article is the result of many years of inquiry and has been acquired from many sources. Fishermen would do well to go into the matter thoroughly. If you are too busy at this season of the year to test the efficacy of suggested treatments put this copy of the *Canadian Fisherman* in some safe place and go into the matter when you have time.

The importance of the question of preserving twine is best illustrated by government statistics. Do you know that we have nearly nine millions of dollars invested in nets and twine? That is a tremendous item and considering that it is possible to extend the life of equipment one hundred percent in many instances, you will need no further urge to apply the suggestions to your own business.

A penny saved is a penny earned. Cutting down overhead is increasing profit. Good management means not only making good sales but using your equipment to the very best advantage. Make it pay every dollar it can produce.

STANDARDIZATION COMING GRADUALLY

The standardization of fish containers on the part of Canadian exporters establishes confidence in our buyers and stabilizes prices. Government inspection of the commodity so packed is an absolute guarantee of quality and

supplements standardization to the extent of making the foreign buyer as sure of his purchase as though he were buying a long-established and reputable non-perishable article.

A most significant sign of the times is the voluntary adoption of a standard container by Grand Manan exporters of smoked herring. Our news columns tell of an agreement between them and American buyers to establish a standard box and maintain it, to pack it honestly and thoroughly with the object of establishing a fixed weight basis, and finally adopting it as a reliable unit with a fixed price per box.

As the president of the Seaboard Trading Company points out, the trade in small boxes of smoked herring has dropped away almost entirely for the simple reason that the dimensions of the container have done likewise. The dimensions of the larger container were falling away at an alarming rate, too, but packers were so impressed with the loss of the small box trade that it was not a difficult proposition to arouse them to the danger of a similar catastrophe in the larger boxes.

It is extremely encouraging to find packers voluntarily adopting standardized containers and it is hoped that this instance will be but an entering wedge to general standardization in all branches of the industry both in containers and in packing.

On the Pacific coast the federal government has taken a hand to overcome the numerous and serious deficiencies which have in the past characterized the salt herring trade with the Orient. Canadian government trade commissioners have frequently written from far eastern points complaining of the unsatisfactory cure of the commodity and of the frailty of the containers. It was a black eye not only to the fishing industry but to Canadian trade in general.

The federal department had an order-in-council passed on July 24 instituting regulations to become effective October 1 making it obligatory on the part of the salt herring packer to case his commodity in substantial boxes that will guarantee arrival at destination in good condition and also to submit his product to inspection. If it falls below standard he will be liable to penalty.

This may appear to work a hardship on those who have been accustomed to the slip-shod methods which 'got by' before, but, obviously it will work ultimately to their own advantage. The department at Ottawa is to be congratulated on the step it has taken. No doubt it was well advised of its necessity by its Vancouver office.

FISHING AREAS AS SHIP'S DUMPS

A question that has been engaging the attention of maritime nations since the advent of the oil-burning ship is the pollution of navigable waters with oil refuse. The practice of exuding this waste from ships must be dealt with at an early date. It concerns the fishing industry directly. In Great Britain, the United States and on our own Atlantic coast complaints have been numerous. In Great Britain a bill is being considered to make the discharging of oil into navigable waters liable to a fine of five hundred dollars.

There has been some talk among United States fishing interests recently of calling a conference of maritime nations for the purpose of discussing the situation and finding, if possible, a remedy for the evil. While it must be agreed that it is necessary to extend all facilities to ships for the handling of commerce, it is unfair and unwise to carry concessions to the extreme of injuring an important industry. Reports from all quarters indicate that this waste is destructive to fish and bird life. It is disagreeable to human beings as well and when present in harbors always exposes a community to unnecessary fire hazard.

This is one of the subjects which must be taken up at the annual convention of the Canadian Fisheries Association next May.

PISCATORIAL PARAGRAPHS

A pamphlet recently issued in Germany dilates upon the many advantages of fish as a food, and draws special attention to its benefits as a diet for gout. Dr. Woods Hutchinson, an authority on dietetics, in a recent issue of Collier's tells of its value while train travelling for the same reason that the German authority claims its efficacy for gout, that is, its ready digestability.

A Deep Sea Fisheries Exhibition held in London, England, last month, attracted wide attention and, in the opinion of authorities resulted in much practical service to the industry. About the same time there was a fisheries fair at the great German trawling port of Geestemunde having a similar purpose as that held in London. A second fair was held at Kiel the middle of September.

J. King Kelley, K.C., secretary-treasurer for the county of St. John, N.B., at a recent convention of the New Brunswick Union of Municipalities, criticized the University of New Brunswick for not making its courses of greater practical value. "The ordinary citizen may well inquire", he said, "why he should be taxed to pay the salary of a professor of Greek when a professor of agriculture, mines, forestry or fisheries would appear more utilitarian in a new and undeveloped country."

In an interview which he gave in Vancouver, William Duff, M.P., chairman of the Fisheries Royal Commission, declared that means must be found to change fishing from a seasonal occupation to a year-around one, if the industry is to be developed. He said something. If he can find the means to accomplish that, his work for the welfare of our fisheries will not soon be forgotten.

As a result of representations made by the central executive of the Canadian Fisheries Association the fishing regulations for Ontario have been amended so that section 12, putting minimum restrictions on the size of fish caught, shall not apply to Lake St. Clair.

Packers Standardize Voluntarily

Progressive movement on part of exporters on Grand Manan to maintain market for smoked herring.

New York, August 25

In the interest of the industry, we enclose you copy of agreement recently made by the shippers of smoked herring for export in Grand Manan, N. B. We think this effort is in the right direction and in the interest of the industry and the community and also is a plan that should be followed and adopted on the main shore.

We think this is a constructive and beneficial effort of the highest kind and should have your support. We believe you should publish this letter together with the agreement at an early opportunity and will be pleased to receive a few copies of the paper containing the same.

We trust this will meet with your approval as it is directly due to our personal efforts that this agreement was made and we feel that it is not only a step in the right direction but absolutely necessary to save the industry from a complete moral collapse and disintegration. This is precisely what has happened in connection with the production and sale of herring in small boxes which dwindled from the original net weight of five pounds per box to a claimed standard of 1¼ lbs. per box at present. The business has disappeared, as the consumers finally, and naturally enough, became completely disgusted and there is no outlet or call for packages of the kind compared to twenty and twenty-five years ago. —Seaboard Trading Company.

Pledge to Maintain Standard

Seal Cove, Grand Manan, N. B.
August 1, 1922

In order to establish a uniform standard of measurement and contents the shippers of smoked herring in Grand Manan have adopted the following unit of measurement and contents for so-called bloater boxes of smoked herring for export, viz:—

Length 19½ inches Width 10¼ inches Depth 5 inches

These measurements being the inside dimensions of the box, which will therefore hold on the above basis 999⅜ cubic inches of contents.

This standard to be enforced beginning with the herring of the catch of the fall season of 1922. Due notice of the adoption of this standard to be sent to the Department of Marine & Fisheries at Ottawa, the Preserved & Salt Fish Dealers' Association in New York, the various box shook mills, the fishermen of Grand Manan and to the buyers of these herrings in New York and elsewhere.

As soon as it can be determined an average weight for this size and measurement box, packed full of smoked herring of the catch of 1922 well cured and smoked shall be arrived at and established for that season, and thereafter the boxes shall be branded to contain that average weight. The fishermen, packers, and dealers to engage to maintain that standard of weight and contents for the season of 1922. Thereafter the average weight of a full box of herring shall be determined and arrived at in the same fashion each year, and boxes to be thereupon marked with such average weight of contents each season according to the size and degree of fatness of herring well cured and smoked.

It is agreed and understood that it is the intent and purpose of this agreement to continue to maintain the same standard size of the box and that in each year, regardless of the size and fatness of the herring, the boxes shall be well and full packed, and this shall be the rule by which the average weight for each year shall be determined.

Boxes that do not comply with these specifications as to dimensions and weight of contents, or that do not contain sound well-cured and smoked herring throughout, shall not be a good delivery and we pledge ourselves not to accept, trade in, or ship such goods, and agree to co-operate and advise each other if such boxes inferior as to measurement or contents requirements are packed or offered and to do all we can to prevent and suppress such practices, which shall be a violation of this agreement, and of persisted in, to report such violations to the Department of Marine & Fisheries for action, so as to uphold the standard hereby established, and that we respectfully ask the support and co-operation of the Department of Marine & Fisheries and all others concerned to establish rules and regulations for the maintenance of this standardization, so as to promote fair and equitable trade in this commodity for the benefit of this industry and the welfare and prosperity of this community.

In witness whereof, We have pledge our support to this agreement by affixing our signatures, on the day and date stated above.

(Signed) — McLaughlin Brothers
Fletcher N. Harvey
Albert E. Cook
Irvin Ingalls
W. D. McLaughlin

Container Shrinkage Fatal To Trade

Minister of Marine and Fisheries,
Ottawa, August 25, 1922.

We refer to our correspondence last spring with reference to an effort of the Preserved and Salt Fish Dealers' Association of New York, to establish a standard measurement box for smoked herring packed in so-called bloater boxes for exports, and take pleasure in enclosing you a copy of an agreement reached on August 1 by the writer with the shippers and dealers in Grand Manan and no doubt they have sent you the original agreement signed by them.

We are very much interested in the establishment of a standard measurement and content's box. It is not so much that it be any particular size box, but that there be a FIXED standard that will be maintained and prevent the continued changing and cutting down of dimensions which finally brought about a box, last spring, containing only about eleven pounds net.

We have seen the contents of these boxes shrink from twenty-five pounds net so that today we are perfectly willing to accept a box containing from eighteen to twenty pounds net as a standard and full delivery.

If this effort is not sustained, we fear that the same consequences may be seen as developed in the trade for so-called small boxes which twenty-five years ago contained about five pounds net each and today Eastport and Lubec, Maine, are shipping as standard delivery on such orders, boxes containing one and onequarter pounds net each.

It is natural that as a result of that practice the trade and demand for herring packed that way, i.e., herring packed in small boxes, has dwindled away to practically nothing at all. In other words, the ultimate consumer finally would not be fooled and cheated any longer and therefore through this dishonest practice of one packer and shipper trying to outdo his neighbor in cutting down the size and contents of the box delivered, the consumer has gone on record that he will not any longer be deceived this way. Therefore there is no demand to speak of for boxes of that kind.

To prevent a similar breakdown of business we appeal to you for your wholehearted and forcible support. You will find the dealers unanimous in support of this arrangement and we believe that there will be no further trouble once this box is established and shooks cut accordingly by the mills and that in a short time the entire trade will be so accustomed to the standard that no further questions will be raised.

We anticipate your favorable consideration and trust that you will see our efforts to be in the interest of the community and the industry and that you will give us the benefit of your co-operation, for which we thank you sincerely and remain:

Seaboard Trading Company.

Salt Herring Standardized By Law

Government steps in to improve cure and packing of herring sent from Pacific coast to Orient.

The following regulations for the curing and packing of dry salted herring and the standardization of the container in which same are exported were adopted by order-in-council, July 24 last, and will become effective October 1. They apply to British Columbia waters to which this branch of the industry is confined.

Water to be drained from fish

1. Any water that may have accumulated amongst the fresh fish in a boat or scow shall be allowed to drain away when the fish are being discharged therefrom and before salting takes place.

Method of salting

2. The fresh fish shall be thoroughly salted into tanks or other water-tight receptacles in such a manner as will permit of each fish coming in contact with the salt. All fish shall be sound and they shall be salted within twenty-four hours after being taken from the sea. If the tanks or other receptacles stand in the open when filled, they shall be covered and protected from rain and snow.

Length of time fish to remain in salt

3. Fish taken on the west coast of Vancouver Island from the beginning of the fall season up to the end of the first week in December, shall remain in salt for a period of not less than five days of twenty-four hours each. Fish taken on the west coast of Vancouver Island after the first week in December and all fish taken on the east coast, shall remain in salt for a period of not less than four days of twenty-four hours each before being boxed for shipment. All fish boxed for shipment shall be sound, thoroughly cured, and in good condition.

Size of boxes

4. Boxes for shipment of dry salted herring to the Orient shall be forty-two inches long, twenty-four and one-half inches wide, and fourteen inches deep, outside measurements. The side, top and bottom shall consist of good sound board one inch in thickness. The boxes shall be strongly made and well nailed.

Packing, filling of boxes and marks

5. The fish, on removal from the tanks, shall be well drained of pickle, firmely packed in the boxes and sprinkled with salt. Each box shall be filled to its utmost capacity with fish at the time of shipment. A mark or number shall be plainly marked on each box to indicate the packer of the fish.

Time and place of inspection

6. The fish, at the place of curing and packing, shall be subject to inspection during the process of discharging from the boats or scows, and thereafter until they are boxed for shipment. The boxes also shall be subject to inspection at the same time and place.

Shipments may be detained

7. An inspector may detain for the time necessary to complete his inspection any shipment in respect of which he has reasonable grounds for believing that the boxes or fish are not such as the regulations require.

Certificate of inspection.

8. If an inspector is satisfied, after inspection, that the fish and boxes are such as the regulations require, he shall furnish the packer with a formal certificate of inspection, and no shipment shall leave the packer's place without such certificate.

Fish or boxes below standard

9. If an inspector finds, after inspection, that either fish or boxes are not such as the regulations require, he shall state on his certificate wherein the fish or boxes fail to comply with the requirements, and the packer of such fish shall be liable to the penalty provided by subsection 2 of section 11 of the Act (as amended 1920).

Re inspection on appeal

10. In the event of a packer or owner appealing against the decision of an inspector, and of another inspection being ordered, the inspector who carries out the second inspection shall proceed in such manner as will thoroughly satisfy him as to wether the fish or boxes comply with the regulations.

These regulations will become effective on October first, 1922.

Best Methods of Preserving Nets

Extensive researches in Many countries to find means to extend life and service of twine — A question worthy of study.

In a recent number of the Notes and Memoirs issued by the scientific and technical branch of the French Fisheries Department, Fillon gives the results of experiments carried out in various countries in order to determine the best methods of preserving nets from rotting.

Blue-stone

Huwart at Ostend in Belgium experimented with blue-stone or blue vitriol (i. e. copper sulphate), the copper in which kills the bacteria that cause rotting. Norwegian fishermen have long used this method for their salmon nets, putting them overnight in a cold solution of blue-stone, and then immersing them, without drying, in sea water. Huwart used half an ounce of blue-stone for each pound of net and let the solution act for 4 hours. He then compared net so treated with untreated net, first when new, then after 90 days in foul water during the winter, then after 25 more days in foul water in May, and finally after 36 more days in foul water in the summer. The tests made were to find out how much the net would stretch without breaking (elasticity) and how great a strain was needed to break it (strength). The treated and untreated nets were equal at the beginning, but differed greatly after exposure to the rotting water. For example at the end of the second period (115 days in all), the untreated net broke when tested with only 1/30 of the strain it originally withstood, while the treated net did not break until ½ of the original strain was used. The former stretched only ¼ of the original amount before breaking, while the latter stretched even more than it had at first. At the end of the third period both nets were useless, but only the treated net had any strength and elasticity left. The general result is that the blue-stone preserves the net well, except for long periods and in the warmest weather.

A better result is obtained by using soap as well as blue-stone. A copper soap is formed, which is insoluble, covers the fibres and lasts longer. Ordinary soap is dissolved in hot *fresh* water (one-to two-thirds of a pound to the gallon), using a galvanized vessel. The clean netting, which must have been carefully rinsed in hot fresh water, is kept in the hot soap solution until it is thoroughly penetrated. It is then taken out and wrung by hand. The blue-stone should be dissolved in cold water in a wooden vessel, taking about two-thirds of a pound to each gallon of water. The netting while still hot is plunged into the blue-stone solution, and takes on a fine green tint. When the solution becomes weak, the netting is taken out and rinsed in cold water. It is worth while to treat the netting again in this way from time to time.

Tar, linseed oil, and creosote

Tarring is the chief method of preserving nets used in the United States. It is a simple and in-expensive method. The tar acts by virtue of covering the fibres of the netting, by being insoluble, and by containing antiseptic or germ-killing substances similar to carbolic acid. Its disadvantage lies in making the netting 100 p. c. heavier, which means much greater wear, and also more labour and time in hauling and handling generally. It also makes the netting stiffer, which lessens the catches in the case of gill nets. Better results are obtained by first tanning the net, as described later.

Linseed oil is very dear and difficult to apply. If used in combination with tanning, it does not protect the netting better than does the latter in combination with sodium bichromate and blue-stone.

Trials have been made also of creosote, which is used so successfully for railroad ties and telegraph poles, and the results are good, the netting undergoing very little shrinkage, and not becoming stiff. Unfortunately, the creosote does not last, being partly evaporated and partly washed away by water.

Tanning Methods

Tanning is extensively used in the preservation of the skins of animals, converting them into leather. When used for the vegetable fibres of which nets are made, it does not produce quite the same results. The netting, after being treated with the tanning liquor, does not retain the tanning materials so firmly as does leather. In water, even when cold, the netting rapidly loses these materials, and preservation is very temporary. It is necessary to use some method of fixing the tanning materials in the substance of the netting.

(A). *Tanning followed by tarring.*—In France tanning is generally done with cutch. After the new net has been cleaned, boiling cutch liquor is poured over it, and the vat covered and left overnight. The next day the liquor is removed and the net put out to drain. This operation is repeated, as often as six times, until the net is well coloured. When the net is dry (if too dry, it is moistened slightly to prevent too much tar penetrating and stiffening the net) it is immersed in a bath of boiling tar consisting of four parts of coal tar to one of carbonyl. After this, it is drained and dried. The tarring is not usually repeated, but the tanning is done again after somewhat long use.

(B). *Tanning followed by treatment with sodium bichromate and blue-stone.*—Bull recommends this method as being much superior to the last one, and gives the following directions for carrying it out. The net must be perfectly clean and in particular free from all fatty or oily matters. For 100 pounds of net (either cotton or hemp, but cotton gives better results) 15 pounds of solid quercitron extract, 65 pounds of oak bark, or 25 pounds of catechu extract are used. Half the quantity is dissolved (or extracted in the case of oak bark) in water, and this may be hastened by using a jet of steam or by frequent stirring. When solution is complete water is added to make the volume up to 50 gallons, and the temperature is raised nearly to the boiling point. The net is put in and kept below the surface with something heavy (not iron), and the bath left covered so as to cool slowly. After 48 hours the net is taken out, wrung, and left to dry. The other half of the extract is added to the liquor that is left and the operation repeated.

The subsequent treatment with bichromate and blue-stone is carried out as follows: For 100 lbs. of net 2 lbs. of blue-stone and 1½ lbs. of potassium or sodium bichromate (the latter is cheaper) are dissolved in cold water in a wooden barrel and the volume made up to 50 gallons and well stirred. The net is put in, and left for two or three hours, being moved occasionally with a wooden rod. Then it is taken out, rinsed in cold water, and dried. It is worth while repeating the treatment from time to time. In place of quercitron extract, oak bark, catechu or hemlock bark may be used, but they are not quite so good. Cunningham's experiments show that true catechu or cutch does not give as satisfactory results as mangrove extract or red cutch. Quebracho may be obtained more easily, and gives rather satisfactory results, though not so good.

A test of this method, using quebracho, was made at Ostend. Treated and untreated nets were placed in a large shallow vat containing brackish water fouler with sewage, and left for 77 days in the heat of summer, being stirred frequently to let the air have a chance to act. While the untreated net lost nearly fifteen-sixteenths of its original strength, and some of its elasticity, *the treated net was considerably stronger, and more elastic to begin with, and lost only a little of its strength in the rotting water.*

(C). *Tanning followed by treatment with ammoniacal copper sulphate.*—Dr. Olie of Utrecht recommends this method for these reasons: (1) the tannin and other matters from the first bath are fixed; (2) the tanning matter is made more permanent, and to its protective action is added the very effective bactericidal action of the copper; (3) the ammonia neutralizes the sulphuric acid formed by the action of the blue-stone on the tannic acid and makes it possible to put the net away in storage at once. When the previous method is used, the net must be put out in the water at once so that the sulphuric acid may be washed out (which takes place slowly); otherwise the net is ruined. By this method it is possible to put the net in storage directly after treating it.

Dr. Olie carried out experiments with this method in 1919, using cotton net, and treating it with various tanning materials, in each case both with an without blue-stone. The variously treated pieces of net, as well as untreated net, were exposed to the action of water during four different periods, from August to November, and tested as to strength after each exposure. His results show that the tanning materials, when used alone, do not appreciably lengthen the life of the net, except in the case of Black Wattle Extract. When subsequently treated with ammoniacal copper sulphate (blue-stone and ammonia) the net shows greatly increased resistance to rotting, losing less than a third of its original strength when untreated net has lost eight-ninths, that is, nearly all. Net tanned with Black Wattle Extract and then treated with the ammoniacal copper sulphate was under the same conditions practically unaltered in strength, proving the great superiority of this tanning material, which comes from the bark of a species of Mimosa or Acacia that is abundant in Australia.

The exact procedure in this method of treating nets is as follows: For each pound of net a little more than three ounces of the catechu is used, dissolved in a gallon of water. The net is boiled in this solution for half an hour, and then left in it to cool slowly for twenty-four hours. The net is then dried and the operation repeated. After having become dry for the second time (it should *not* have been rinsed) it is weighed. For each 100 lbs. of well tanned net take 5 lbs. of blue-stone and 19 lbs. of 20 per cent solution of Ammonia and dissolve in 50 gals. of cold water, the ammonia being added only when the blue-stone is all dissolved. A wooden vessel must be used, also a wooden stick for stirring thoroughly. The final solution is of a very deep blue colour. The entire net should be put in very quickly and either the net or the solution kept in constant motion. When the colour of the solution is gone, or after not more than fifty minutes, the net is taken out, rapidly rinsed, and dried. For made-up nets it is better to take twice as much water.

Use of analine dyes

The Utrecht laboratory has also experimented with aniline dyes for the preservation of nets. It has been found that they do not penetrate the net so quickly and thoroughly as do the tanning materials. The ammoniacal copper sulphate, when used after the dyes, is not fixed as well as when it follows tanning. The dyes are effective in preserving the net, but less so than is tanning.

Care of nets

As is well known, if wet nets are piled up, they heat, particularly if dirty with mud, blood and greasy material, and this may even go as far as spontaneous combustion. This is most harmful to the nets, even if well tanned. Much gear lasts only a short time because it has been thus "burnt." The rule should be to thoroughly wash the net and to dry it very quickly.

If this is not possible, salting may be resorted to, which acts as in salting fish by extracting the moisture and preventing growth of bacteria. If the nets are greasy with fat, as in the herring fishery, this is not sufficient, for heating results from the action of air on the fat. Bull recommends in such a case that the nets be kept immersed in water or brine in a vessel with a tight lid until they can be thoroughly cleaned. In this way they are kept out of contact with the air.

There is no doubt that the proper preservation of nets is of the greatest importance to our fishermen. At the present time with low prices for fish and high prices for gear, it is difficult for many to make fishing pay. If nets could be made to do double duty, failure would in many cases be changed to success. The care now given to nets is far from what it should be, and the better methods advocated above should be adopted by our fishermen. We would welcome inquiries as to procedure, or information concerning failure or success with the methods at present in use in our country.

THE SMALLEST SWORDFISH

What is probably the smallest swordfish ever caught is now on exhibition in the offices of R. S. Hamilton Company, 17 Administration Building, Boston Fish Pier. It weighs but seven pounds and six ounces. The pigmy of the species was caught by the American swordfishing schooner "Anna" and was the cause of considerable curiosity when it was landed at the Boston pier. The Hamilton company has received several offers for the fish but has turned them all down. This firm is one of the largest handlers of swordfish in the country because of that fact places a greater value upon the fish than collectors of marine species who have been endeavoring to acquire it.

Rules for Fishermen's Races Amended

International Committee Trying to keep event purely fishermen's battle — The outlook at present.

In the course of time the International Fishermen's races will be an institution attracting worldwide attention. The trustees of the Dennis trophy are exerting every effort to enforce the obvious intentions of the donor and keep the races strictly honest. The building of the May flower is considered by many a breach of the rules, if not in actuality, then at least in spirit, but the trustees, in the face of a difficult situation, have indicated that the races must continue to be honest-to-God fishermen races.

The idea of an international fisherman contest was inspired more or less by the ludicrous display of seamanship in the international yacht race a few years ago—an event that seems to be perpetuated for the sole purpose of affording Sir Thomas Lipton an inexpensive medium of advertising. That event was not a competition of seamen representative of either Great Britain or the United States and that they were tolerated and followed so long induces a feeling of disgust akin to that inspired by that odious spindle-legged lap dog that milady totes around with her.

Whether or not the trustees, of whom H. R. Silver of Halifax is chairman, will eliminate the Mayflower from the international event, yet remains to be seen. While the Mayflower has proved her seaworthiness and her ability to catch fish on the banks, few will argue, even in the United States, that she would have been built on her present plans were it not for the attraction of the Dennis trophy and purse. The trustees know this but they must also feel the ticklish position they are placed in because of the Mayflower's adherence to the letter of the rules.

The Rules are Amended

Whatever may be their decision in the matter they are making provision for the future. Changes in the rules were adopted at a meeting of the international committee held in Portland, Maine, July 22, and recommendations forwarded to the trustees indicate a strong decision to prevent these contests from developing into mere sporting events.

One of the most important of the new regulations limits the crew on each schooner taking part in one of these races to thirty members, exclusive of the observer, and provides that all of them must be men who gain their livelihood as fishermen. The shortening of the time limit of the race to seven hours instead of nine, as formerly, is a chance tending away from sport and toward sea-going efficiency. The new division of the prize money, by which the winner will get $3,000 and the second boat $2,000, instead of $4,000 and $1,000 respectively is another evidence of a strong desire on the part of the trustees and the committee members to preserve a wholesome balance in all the aspects of the races.

The same spirit was shown in the adoption of a suggestion that a displacement rule be worked out and submitted for coinsideration that will tend to prevent the building of extreme types of schooners which could only result in the trophy races becoming sporting events instead of races between real sea-going fishing vessels. One defect of a displacement rule is that it offers the temptation to designers to try to evade it, but after the experience of the Boston syndicate which built the Mayflower nobody is likely soon to attempt another such evasion by building a fishing schooner with the line of a yacht.

Mr. Silver has stated that the question of the eligibility of the Mayflower has not yet been considered by the trustees, but in justice to all concerned there should be a decision one way or the other before the American elimination races are pulled off. If the Mayflower wins in the primary event and is then ruled out she will have been put to a lot of useless expense and, furthermore, the situation across the border will be complicated, for what schooner would then compete? Possibly the Gloucester race committee has come to an understanding on this point else there may be forced upon it the necessity of conducting another series of elimination races.

In the meantime the Mayflower's plans have been forwarded to the trustees at Halifax, having been requested by that body for examination.

The U. S. Elimination Races

The American elimination races are to be held off Gloucester October 12, 13 and 14 . The vessels that will fight it out for the responsibility of wresting the trophy from Nova Scotia will be the Mayflower, Elizabeth Howard, Yankee, Henry Ford and L. A. Dunton. The Gloucester folk are lamenting the loss of the Puritan upon which they were pinning their faith. Now they are turning to the Henry Ford but they wish she was a bit longer. The Elizabeth Howard, they fear, is too heavy.

In the races of the last two years some of the contenders have utilized the services of amateur sailors for starting and light sail handling but this will be prohibited by the amended rules, which, as stated above, call for 100 per cent. bona fide fishermen.

The Canadian Preliminaries

The races in Canadian waters are to be run between the fifth and tenth of October outside Halifax harbor. Meetings have been held recently in the Board of Trade rooms, Halifax, for the purpose of arranging details. It is not known definitely what vessels will be entered but the chief contenders will be the international champion Bluenose, and the new Mahaska, launched from the yards of Smith & Rhuland, Lunenburg, this spring, and which gives much promise. There is some newspaper talk that the recently launched Margaret K. Smith from the Smith & Rhuland yards, may be entered, but she does not appear to be eligible because of having not yet stood the test of a practical fisherman.

The question was raised at Lunenburg whether the Bluenose should compete with all comers in the eliminations this year. The view was advanced that she was the champion and should only be called upon to contest the right of defending the cup with vessels she has not already beaten. Mr. Silver, however, definitely rejected this idea. The cup, he said, is held only temporarily by the winner and, as a matter of fact, the Bluenose owners had already been requested to return the trophy to the trustees. There must be elimination races each year, says Mr. Silver, and the winner of these events will be the one to represent Canada in the international contest. That's right. That's as it should be

The Race Committee

Benj. A. Smith, Gloucester Capt. Charles H. Harty, Gloucester.

The chairman of the international committee is always selected from the country where the race is held and the Hon. W. W. Dufferin collector of the port of Boston was chosen member of the committee and chairman.

The committee will therefore be constituted as follows:

Chairman, Hon. W. W. Dufferin. American Members; Benj. A. Smith, Capt. Charles H. Harty. Nova Scotia Members; J. J. Kinley, M. P. P. Lunenburg; Casey Baldwin, Baddeck.

BIG FISHERIES DEVELOPMENT SCHEME FOR ANTICOSTI ISLAND

It is rumored that Mr. Gaston Menier, ower of Anticosti Island, who is now sojourning there with his son and Mrs. Meunier, Jr., and the Governor and General Manager, Mr. Martin Zede, has evolved a very big programme for the further development of the island and its natural resources. Mr. Meunier believes, and he is quite right in coming to this conclusion, that the Island of Anticosti is in the midst of a rich, virgin fishing area, the development of which can be made into a very flourishing Industry. It is said that some fifty fishermen and their families will be located on the eastern end of the island, with the most modern fishing paraphernalia at their disposal. Cold storage houses will be erected and two fine boats will be purchased to carry on a ferry system between Gaspe Basin and the island, which service might even be prolonged into the winter months, as one of the ferries will probably be an ice-breaker. By connecting with the mainland at Gaspe, the distance for the transportation of fish, freight, passengers, etc., will be reduced to a few hours. If this proportion is carried out, it will certainly inaugurate another large industry for the Gaspe coast and bring Anticosti into closer touch with the Canadian mainland.

If these ferries are established between the eastern end of the island and Gaspe, it means that the distance between New York and the island can be made within forty hours, which would afford Mr. Menier an opportunity of forming one of the greatest hunting and fishing preserves in the world. There are thousands of deer, bear and other big wild game on the island, the shooting of which would prove a huge attraction for thousands of American sportmen. It would not be a case of shooting big game, but paying for the privilege of picking out your heads from herds of thousands of deer, bear, caribou, etc., not to speak of the salmon and other deep sea fishing attractions of the surrounding waters.

The purchasing of two new boats will probably result in the disposal of the present ship now engaged in service between Quebec and the Island.

It is said that Mr. Menier's inability to find a market for his fish in Quebec has had much to do with the change of transportation facilities for handling his fish and other products to be shipped via Gaspe, providing a proper terminal site for a cold storage plant and other warehouses can be obtained in Gaspe harbour. —Quebec Chronicle.

FRED WALLACE'S SUCCESS

The very many friends of Captain F. W. Wallace, former editor of the Canadian Fisherman, will be both pleased and interested to learn of his recent literary successes. Two of his books have been prepared for the screen. The New Brunswick Films Ltd. has been organized at St. John, N. B. to produce films of the province and the company is already at work on the dramatization of Wallace's 'Blue Water'. The Halifax Films Limited will film his 'Viking Blood' next year.

A new and revised edition of his 'Shack Locker' and a new book of short stories entitled 'Salt Seas and Sailormen' are now on the press in Canada and Great Britain and the publishers are anticipating a heavy sale for them.

The skipper has recently made a departure from novel and short-story writing. He has been compiling data for the work of many, many months and it is announced that he has just completed the first volume of a Canadian seafaring history—Wooden Ships and Iron Men—The Story of the Square-rigged Merchant Marine of British North America, the Ships, their builders and owners, and the Men who Sailed Them." This is a record of all the data regarding wooden shipbuilding in Eastern Canada from earliest times up to 1895, particulars of the ships, their passages and record runs, incidents regarding them, their builders, owners and skippers. It is the first time this information has been fully compiled and Wallace's gifted pen should make the work not only of tremendous historic value but of extreme interest.

Friends will join with us in congratulating Wallace. May his work carry him to the pinnacle of literary fame.

FISHING MUCH BETTER THAN LAST YEAR

During the month of July, there were 873,881 cwts. of fish landed on both the Atlantic and Pacific Coasts valued at $2,596,219. In July, 1921, there were 654,448 cwts. caught with a value to the fishermen of $2,287,078.00.

Some 520,457 cwts. of cod, haddock, hake and pollock were taken compared with 288,409 cwts. in the same period of the previous year. The catch of cod was about double that of July 1921 while the catch of hake was three times as great.

Mackerel are still being taken in larger quantities than in the previous year, 32,486 cwts. being caught compared with 18,384 cwts. last July. This brings the total catch for the year up to 185,278 cwts. against 100,858 cwts. in the same period last year.

There were 9,440 cwts. of lobsters caught during the month compared with 10,900 cwts. last July. Since the season opened in November last, the total catch has been 314,777 cwts. Of this quantity 54,540 cwts. have been used fresh and 130,096 cases canned. In the same period in the preceding year, 304,149 cwts. were taken from which 80,617 cwts. were used fresh and 112,222 cases packed.

On the Pacific Coast the catch of halibut was less than in July last, 23,529 cwts. and 32,637 cwts. being taken during these respective months.

The catch of salmon was also less, there being 159,944 cwts. taken compared with 194,026 cwts. last July.

One fisherman lost his life on the Atlantic Coast during the month.

The Season in Prince Edward Island

Lobster shows wonderful recuperation — Permanent and prosperous future for industry if properly protected.

The late lobster fishing season in Prince Edward Island, which applies to only a small section of the southern coast from Tuyan to West point, a distance of fifty miles, will open August 16 and will close two months later.

If the fishing turns out to be equal to the average for that season, then the whole catch for the early and late seasons will be very satisfactory. Ward Fisher, of Halifax, Chief Inspector for the Maritime Provinces who made a tour of the Inland factories, the latter part of June, near the close of the early season, which applied to the whole Island, with the exception of the fifty miles referred to, said that he was gratified to find that the fisheries in general had greatly improved ed, particularly during the past three years and this year the improvement has been very marked.

The catch on the Island this year will be from 7,000 to 10,000 cases more than last year or about 30 per cent increase.

There is a great improvement in the operation of the canneries, which will compare quite favourably with those in Western Nova Scotia.

The buildings and equipment as a general rule are immaculately clean. This improvement is the result of the educational campaign which has been carried on for the past three years by Dr. Knight and others. The danger from blackening and smut has greatly decreased and he expected that these will be eliminated in the next few years.

The remedy for blackening "is exercising greater care in handling the lobster from the time it is taken out of the water, until it is fully processed, and particularly, care from the time the fish is boiled until it is put in the tins for the last processing. It has been noted that where operations have been carried on as quickly as possible after the lobsters are caught, the danger of contamination is almost entirely avoided. The result of the progress made in that respect in this province, is that the quality of the Island pack has increased about 50 per cent.

Lobster Shows Recuperation

"To what do you attribute the increased catch this season," Mr. Fisher was asked. The lobster has shown wonderfull recuperative powers from time to time, he said. There was formerly great fear that the fishery would go to pieces. In some districts the danger was only too apparent, caused largely by carelessness and wilful violation of fishery regulations.

The destruction of seed lobsters and illegal fishing constituted the chief danger, particularly in the Island.

The fishermen and packers have learned that if the industry is to be a permanent one of ever increasing value, there must be a strict observance of the regulations, including the preservation of seed lobsters. Some packers are still careless, and will not properly examine the catches landed by the fishermen They accept, some unwittingly, others knowingly, quantities of seed lobsters.

Several convictions were secured, the offenders paying $30 each, including costs.

The penalties, imposed by Justice of the Peace, said, Mr. Fisher, for destruction of seed lobsters, are too light. The maximum pentlty is $1000 and closing down of the factory. It is now proposed to have a minimum penalty of $250, and the closing down of the factory for a season.

The lobster fishery in the Island, next in importance to farming, has a permanent and prosperous future if the industry is properly protected.

Mr. Fisher said that the run of size varied greatly in different localities. Some very quite small, and others fairly large. In some districts they were really too large for the best pack of three ounce tins.

Mr. Fisher also commented on the way in which the supply of small lobsters kept up from year to year. It was thought that packing lobsters of a certain size would soon deplete the fisheries but the experience of the past three years has shown that until a fair measure of protection, the supply of canned lobsters is increasing.

It is held by careful observers that the reason for this is, that the large breeding lobsters are not caught in traps, and are therefore preserved for breeding.

Must Protect Heavy Breeders

It is quite probable that steps will be taken to prevent any increase in the normal size of the rings in the traps, through which the lobsters crawl. Any such increase would mean a greater proportion of large breeders being taken, thus resulting in a decrease in the annual production.

The great care that the majority of canners have taken on the Island in the past three years has had the result of increasing the confidence on the part of the buyer.

Speaking of sport fishing Mr. Fisher said that trout fishing has kept up remarkably well. The protection and development of such fishing on the Island can be greatly advanced by acquiring proper fish ways through dams, across streams.

In many instances the best spawning grounds are above the dams, therefore the need of proper facilities for the unobstructed ascent of fish to the spawning grounds is of prime importance. In the other provinces, this matter is well in hand, and every dam on all important fishing streams is now provided with proper fishing ways.

SCOLLOP FILMED IN ITS HABITAT

A remarkable triumph has just been achieved by the well-known nature Kinematographer, Mr. H. M. Lomas, F. R. G. S., F. R. P. S., F. R. S A, who on behalf of the British Instructional Films, Ltd., has succeeded for the first time on record, in making a film study of the habits of that interesting but little known shellfish, the scollop. The film was taken in co-operation with the Marine Biological Association, but as the methods employed are a trade secret at present, we are unable to give particulars of how this was accomplished.

Practical Brine-Freezing of Fish

Firm in Finland seems to have developed plant on commercial basis — Building and Plant described.

The use of cold brine in the freezing of fish has been adopted on what seems to be a practical commercial basis in the city of Abo, Finland, a very important centre in the Baltic Fishing industry. The Ottesen Freezery, as the establishment is called, consists of two-storey brick building provided with reinforced concrete floors.

The freezery was designed for a capacity of 20 tons a day and a storage capacity for 400 tons of fish. From the harbour the catches of fish are taken in through the front door to the washing and dressing-room, located on the ground floor. Goods can also be taken in and delivered to the desired floor by means of a basement tunnel and an electric elevator.

Lay-out of the Freezery

The building and plant are minutely described in the June issue of *Ice Refrigeration* (Chicago and New York) by Mr. Achates W. Gripenberg, who has been personally concerned in their arrangment. He says that to the right of the entrance is the boiler-room for a low pressure steam heating plant, and on the left side below the concrete platform is the pump house. A store-room for pipes and oil is provided below the concrete platform, with entrance from outside. The engine-room, in the south-west corner of the building, runs through two storeys; while in an annexe are the engineers' and transformer rooms. On the roof of the annexe space is provided for the condensers and transformer tower.

Adjoining the engine-room is a shop provided with a complete set of tools for repairs about the plant and of fishermen's boat motors. On this floor are also located the office and toilet rooms. The north-east part of the building is reserved for the storage rooms, of which there are five on the ground floor. These rooms are located on each side of a corridor, which is separated from the shipping room by means of an insulated door.

The cleaned fish are placed in galvanized iron baskets and passed through an opening in the ceiling of the washingroom by an electric hoist. Then the baskets, held together by a frame, are sunk into the brine and kept submerged until frozen, when they are removed to the packing-room and dipped into cold water for glazing. The frozen and glazed fish are packed in boxes lined with parchment paper and transferred to the storage-rooms, where a temperature of 14° F. is maintained.

Insulation

The protected location and the climatic conditions are very favourable for the insultation of the building. All the outside walls of the storage-rooms and the ceiling in the second storey are insulated with two layers of 2½ inch board of expanded cork, impregnated with asphalt. The ground floor and the ceiling of the first storey are insulated with two layers of 2-inch, and the inside walls with 2-inch cork boards, and the freezing and packing rooms with 2-inch boards on the inside and 2½-inch boards on the outside walls. The floor and ceiling have two layers of 2-inch cork. The storage-room above and the washing and dressing rooms are insulated for a temperature of 32° F.

The Freezing Tanks

In the freezing-room space is provided for two tanks, but only one is built at present. The tank already in place is of wood, on a foundation of concrete piers, and a section of it is shown in one of the illustrations. The bottom, sides and inside partitions are built of 3-inch planks, bolted together by 1-inch iron rods.

The tank, which measures 12 feet 9 inches by 13 feet 6 inches by 9 feet 10 inches, is divided into three units, each provided with two freezing cells and equipped with two cylindrical cooling coils and agitating propellor. Each cell contains seven fish baskets, which rest on an angle iron frame provided with a wire screen. The direction of the brine flow is such that the cold brine enters the cell at the top, and the heated brine leaves at the bottom. This as Mr. Gripenberg admits, is incorrect from an engineering point of view, but it is necessary, as the fish has a natural tendency to float. For this reason the brine flow must be reversed to prevent the fish from being pressed against each other and the basket-covers, which would damage the fish and prevent uniform freezing.

The partition between the two cells is removable. As the brine is cooled down below its saturation point ice will form on the cooling coils, but the icing can be reduced to some extent by keeping the mean temperature difference between the brine and the refrigerant as small as possible. For this reason the coil surface is increased considerably above the normal. For removing the ice from the coils the compartment is pumped out though the bottom connexion by means of a centrifugal pump.

Cold and Hot Brine

While most of the brine charge is stored in an auxiliary tank, some of it is heated by means of warm water from the condenser and pumped back over the coils. The heat loss is small, as the force of the brine spray allows the ice to be removed by a very low brine temperature. The pump used for forcing the brine through a charcoal filter if needed.

By means of the centre compartment the temperature in all parts of the tank is equalized. This compartment can be used in off seasons as an auxiliary cell for freezing articles occupying considerable space as beef quarters and hogs. Provision is made for supplying the compartment with a removable vertical centre partition, so as to improve the circulation for freezing of ice, during off seasons. The brine level in the different compartments is regulated by means of vertical dampers.

Refrigerating Machinery

The refrigerating machinery is of the ammonia compression type. There are two horizontal double acting compressors driven by belt from two 60-h.p. electric motors. Each compressor is connected with a double pipe condenser built up in two section, 14 pipes high, and 20 feet long. The compressors are connected up in such a way that both can work on the freezing tanks at the same time.

Says Fish Saved Europe During War

Lord Norris, K. C. M. G., P. C., former prime minister of the Ancient Colony, on his way to London in connection with the British Empire Exposition of 1924, gave the following interesting interview to the *New York Tribune*:

"The fisheries question is, to my mind, one of great interest at present to the British Empire," he said. "Great Britain itself possesses the greatest sea-fishing industry in the world. It also has potentially magnificent salmon and fresh water fisheries, but most of these, I regret to state, have been willfully destroyed by unrestricted pollution.

"Great Britain does not produce, and can never hope to produce, within its boundaries the food necessary to maintain its population. Much of it must come from outside, and the sea fisheries can and do make a substantial contribution to the food supplied. It is a contribution moreover which nature supplies, and which man has only to take. It is an import for which payment by corresponding exports is not required, and the cost of it is chiefly represented by the earnings of producers and distributors.

"Most of the countries of the Empire contain fish-bearing rivers and lakes and have sea fisheries within their reach. None are richer in that respect than Newfoundland and the Dominion of Canada. For all of them it is a matter of moment to develop and to exploit their fisheries on rational lines, for fish is a valuable food supply which, being constantly replenished by nature, is practically inexhaustible. That is why we on the Council of the British Empire Exhibition think that no display of all the resources of the Empire can be complete which does not find a place for the products of the rivers, lakes and seas, which must be taken to include not only edible fishes but such objects of commerce as sponges, pearls, corals, and valuable shells.

"While the direct economic significance of the fisheries is therefore great, their indirect significance is even greater, for ever since man first became a hunter (which was long before he became a farmer), the fisheries have been the first and the best nursery of seamen, and ultimately the cohesion of the empire (not to mention the existence of the small island which is its heart), depends upon the maintenance of our splendid breed of seamen.

"To the population of Great Britain of course the maintenance of sea communication is absolutely vital and every part of the empire in a greater or less degree has occasion to recognize the influence which has been evidenced again and again throughout the history of sea power and national prosperity. Sea power does not depend primarily upon capital ships of war and their armament but upon that familiarity with the sea, that spirit of enterprise, and that resourcefulness which is expressed in the term 'sea sence,' and is nowhere more evident than in those who are fishermen.

"It is a question whether the British nation, or for that matter the British peoples, have ever understood or appreciated how much they owe to their sea fisheries. Not even in the great struggle of 1914-1918, when it may be said without exaggeration that the British and Dominion fisheries saved Europe, did the people grasp the real meaning of the efficient service."

Invention Simplifies Packing in Glass

A new method of packing in glass which promises to revolutionize the industry, if it fulfills the expectations it has raised, has just been patented and placed on the market.

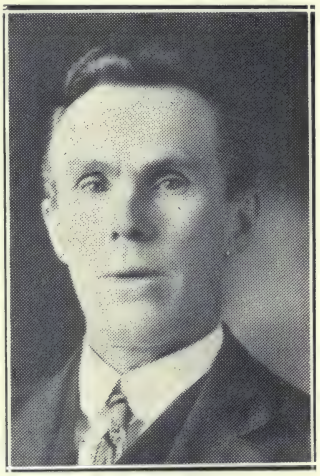
The new process is the product of the experience of J. M. Giffin who spent nineteen years with Burnham and Morrell of Portland, and the past seven years with Roberts Simpson and Co., of Halifax as travelling examiner of their lobster packs.

The tendency of tin to discolor and blacken its lobster contents and the superiority of glass as a substitute engaged his attention, packing in glass by previous methods calling for too expensive and too complex equipment for ordinary commercial use.

As a result of extended experiments carried out on the job Mr. Giffin succeeded in originating a sealing mixture which applied to the inside of the cap made the latter grip the glass while being processed, and then hermetically sealed the contents.

Lobster put up under this method as long ago as 1916 remains in perfect condition today, keeping its original color and attractiveness. The process is equally applicable to the canning of all kinds of foods and opens up a wide range of commercial possibilities.

George E. Roberts of Halifax, Canada, is marketing the new method after using it in his own packing business. The covers are sent, users ready to go on the glass, or the patented formula is supplied on a royalty basis. The cover is placed over the tumbler which is then immersed with its contents in the cooking bath. When removed the seal is airtight. No machinery, rubber gaskets or crimping is required and the cover can be removed readily with a can or bottle opener.



J. M. GIFFIN

News Notes from Far and Near

Collide Twice

The Gloucester schooner Corinthian, Captain Jeffrey Thomas, and the Nova Scotia schooner Nellie J. King were in collision twice at the mouth of Halifax harbor on September 4. The latter suffered serious damage. It is reported that the Corinthian, following the first crash, pulled about to ascertain the damage when the second collision resulted.

Herring Good on Labrador

According to Capt. Norman of the coastal steamer Home, which arrived recently at Sydney, N. S. from a trip north of Bell Isle Strait, there is a good sign of herring on the Labrador side. The fish are of large size, and one man had about four barrels in his codtrap last Friday. Fishermen are getting three to four quintals of cod daily by trawl and handline along the coast from Blanc Sablon to Lewis Bay, but the trapping season is about over.

A Good day's work

Captain Sylvester Dunphy, of the Ingonish schooner Iveta captured a 170-pound sword-fish in 20 minutes off Point Aconi N. S. August 31. In the evening while unloading, the skipper finished up a good day's work by rescuing Walter Butler, a young boy who had fallen over a wharf and was completely exhausted when brought ashore.

Fish Plant Burned

The fish plant of R. Hendsbee & Co., of Half Island Cove, fourteen miles from Truro, N. S., was destroyed by fire at a loss of about $40,000 when it was struck by lightning on Friday night.

Canned Foods Act Amended

Amendments to the Meat and Canned Foods Act respecting the marking of importations of fish or shellfish have been brought into effect and a memorandum covering the terms of the amendment has been issued by the Department of Customs and Excise to officers of that department. The amendment provides that canned fish or shell-fish imported into Canada to be exported need only be labelled to show the country of origin, and also providing that no false or misleading mark or designation of the kind of variety of the contents shall be shown on any can of fish imported for sale in Canada.

Customs Ruling on Fish Roe

Sustaining a protest of Carey & Skinner, of Buffalo, the Board of United States General Appraisers ruled recently that the application of brine and drying, washing and packing for shipment does not make fish roe "preserved" for food purposes, but leaves it free of duty as eggs of fish under the provision in Paragraph 478 of the Tariff Act of 1913. This suit, Judge Brown explains in the board's conclusions, was brought under the customs judicial remedy to test the classification by the Collector of Customs at the Port of Buffalo of certain fish roe which was assessed for duty at the rate of 30 per cent ad valorem under Paragraph 216 of the tariff law. Judge Brown, in reviewing all of the facts in the issue, determines that the fish roe in question should have been admitted through the customs duty free.

Fish Found in Odd Places

An Ontario reader referring to our account of the fish seen in Saskatchewan in the cattle foot-holes after a rain, says he had a similar experience several years ago. He says that he saw numbers of fish on the ground in foot-marks immediately after a heavy warm rain. The fish were about two inches long and must have come down with the rain. He was living in the mountains in Tennessee. It was in the year of 1886 or 1887.—Toronto Globe.

Salmon Anglers Do Well

The salmon anglers have experienced a splendid season in the rivers of the Gaspe and Tadoussac districts, Quebec. Weather and water conditions were favourable and many high scores were made. The salmon runs of these streams compared favorably with that of previous seasons after the poor year of 1920.

The angling and commercial fisheries of these districts have been very largely maintained by the hatcheries operated by the Dominion Government, which this season distributed nearly one and three-quarter million young salmon in the Tadoussac district and over one and one-quarter million in the Gaspe district.

Sockeye Pack Short

"Based on our records, which have been an accurate guide in past years, the sockeye pack on Puget Sound this year will be only about one-tenth of what it was two years ago, when it was the smallest on records," says President E. B. Demning of the Pacific American Fisheries.

Two years ago the total Puget Sound pack was some 62,000 cases. President indications promise a pack of between 6000 and 7000 cases. The so-called "peak" of the sockeye run occurs between July 28 and August 5. After August 5 there is a sharp drop in the catch, which stops entirely by August 25. The hardest blow ever dealt the Puget Sound sockeye salmon fishery was the Austrian purse seine, starting in 1912, it was said.

Some idea of the terrible depletion is gained from the figures of the sockeye pack for the 11 years from 1910 to 1920, inclusive—1910, 248,014 cases; 1911, 132,340; 1912, 193,442; 1913, 1,662,942; 1914, 338,786; 1915, 85,430; 1916, 90,865 1-2; 1917, 454,336; 1918, 52,587 1-2; 1919, 67,087; 1920, 62,751.

Landings at U. S. Forts During July

Fish of all varieties landed at Portland, Me., and Gloucester (Mass) during July, 1922, aggregated 14,543,504 pounds, fresh, valued at $569,529 and 942,690 pounds salted valued at $33,221. For the corresponding month of the previous year the figures were: 11,938,616 pounds, fresh, valued at $469,281 and 952,008 pounds salted, valued at $42,670.

An appreciable decline in the value of salted fish will be noted.

Landings at Seattle, Washington, during July amounted to 1,557,000 pounds, landed by American vessel and valued at $153,453, and 2,637,700 pounds, valued at $246,786 landed by collecting vessels.

Maritime Charters New Trawler

In order to make absolutely certain of a continuity of fresh fish supply, the Maritime Fish Corporation has chartered the Grimsby trawler 'Offa', Captain Martin Olsen. The new vessel is now operating from Canso, alternating trips with the Rayond'or which is without doubt one of the finest steam trawlers afloat.

Incidentally Captain Olsen, who has had much experience on the North Atlantic banks and in European waters, is well and popularly known in eastern Canada and many friends will be glad to know that he is trawling in North Atlantic waters again.

Swordfish Won Fight

An empty boat towed by a giant swordfish was brought to tell of the death of a hunter of these vindictive inhabitants of North Atlantic waters, when it was found last evening off Prospect, Halifax county, about a mile to sea. The boatman had harpooned the fish and it is thought the captive jerked the man overboard and then towed the boat out of his reach. The swordfish had a play fo fifty fathoms of line when found.

The twenty-foot flat-bottomed boat was moving through the water without apparent motive power when sighted about six o'clock by William and John Hardiman, fishermen ofProspect. —As they approached, the fish plunged and tore through the water, but eventually was cut free.

It is judged that but one man was in the boat, because there was only one pair of rowlocks in use. A water glass and a pair of mittens were the only other things found.

Iceland Catch Good

The cod fishing in the district of Fakse Bay and the South Coast of Iceland goes on from January to May says *Fishing News*. It is carried on by steam trawlers, sailing vessels, motor boats and open boats, and within the period named there is caught a quantity of fish which represents more than half the Icelandic klipfish production.

For all classes of fishing craft employed, the present year has yielded very good results. The trawlers in January and February took their catches to Great Britain; later on they salted on board, and after a big catch landed at Icelandic ports. The trawl catches were more mixed than usual more coalfish and haddock were caught than is customary.

Thirty-one Icelandic Trawlers took part in the fishing 24 being stationed at Reyjavik and the rest at Havnefjord. The quantity brought into Fakse Bay and south coast ports were 12,400 tons of large fish, 2,600 tons coalfish and 1,600 tons haddock, all wet salted, the relative quantities of dried fish may be reckoned at 8,000, 1,600 and 1,000 tons respectively.

For the Westmann Islands the total is 4,300 tons, which is more than the average. The totals given made up a quantity which is more than half what the total production of 1922 can be, allowing for a normal fishing for the rest of the year.

Crew shared $624

The little Gloucester schooner Zilpha was the high-line swordfisherman out of that port this season. The craft's total stock was $7,307 and the crew shared $624.

Big Swordfishing Fleet

More than one hundred sail were included in the Lunenburg swordfishing fleet this year.

Smelts on Free List

Because of a strenuous fight before the authorities at Washington by Edward Born and William Fellows Morgan, jr., representing the Middle Atlantic Fisheries Association, the tariff bill as passed by the United States senate and now pending before the conference committees of the senate and house of representatives, has placed fresh and frozen smelts on the free list. Small favors gratefully received, says the Canadian exporter of fish. By the process of attribution the status quo may be attained before the tariff ultimately becomes law.

License Fee $1 per Vessel

While the terms of the original modus vivendi license authorized American vessels to use our Atlantic ports for stipulated purposes on the payment of a fee of one dollar per registered ton, it has been reduced by Ottawa to $1 per vessel as was the case from 1918 to 1921. The original license was restored this spring but the fee was modified after a few months.

Hull Trawlers to Fish Here

Says the Fish Trades Gazette , London (Eng):

A new venture at Hull has been the equipment of vessels for the Newfoundland fisheries. The experiment is being made by Messrs. Hellyer Bros., whose forbears were pioneers of the industry of that port.

Trawlers which have been employed in the Icelandic and White Sea fishing are being reconditioned, and the first two were due to leave Hull on Thursday on their long voyage across the Atlantic. Splendidly appointed and equipped, they have wireless installations. How many other ships will follow is not clear.

The "Earl Kitchener" and the "King's Grey" are not the first vessels to leave the Humber for the Newfoundland fisheries. What was claimed to be the largest vessel despatched on a similar enterprise left Grimsby some years ago.

It is a branch of the fishing industry, however, which French trawling firms have exploited for many years, and specially adapted vessels have been built on the Humber and the Ouse for it.

The course of Messrs. Hellyer's enterprise will be followed with the greatest interest at Hull and elsewhere. It opens out a new era in the fishing annals of the port.

The European fishing fleets coming to take cod this season on the banks off the coast of Canada and Newfoundland will, it is reported, be larger than in any year since the war started. Many of the vessels of the French metropolitan fleet are now on their way across the Atlantic, and they will be followed within a week or two by the Portuguese fleet.

Boston Fish Pier

Boston has the largest pier in the world devoted exclusively to the fish business. It is 1,200 feet long, 300 feet wide, and is paved with brick and concrete, and in such a manner that it can be cleaned easily by flushing with water. It cost $3,000,000 and 80 vessels can discharge their cargoes at once.

REDUCTIONS IN FISHING LICENSES IN B. C.

The Fisheries Department has decided upon a reduction in the number of fishing licenses to be issued during 1923 in British Columbia to other than resident white British subjects and indians. So that those interested may receive the earliest possible notification the following notice has been issued:

Salmon Gill-Nets.—In district No. 1, the number of salmon gill-nets issued to other than resident white British subjects and Indians for the season 1923 will be reduced 15 per cent.

In district No. 2 the reduction will be as follows:

Nass River 10 p.c.; Skeena River 10 p.c.; Rivers Inlet and Smith's Inlet 50 p.c.; All other portions of the district 15 p.c.

In district No. 3 there will be a general reduction of 15 p.c.

Salmon Trolling.—It has been decided that salmon trolling licenses issued for the east and west coasts of Vancouver Island will not be issued for small areas but there will be one license for the West Coast and covering the area "From Victoria to Cape Scott" and one for the second area covering and East Coast "From Victoria to Cape Scott".

Herring Fisheries.—The reduction in the case of herring purse-seines and herring gill-nets will be a general one of 15 p.c. covering the whole province.

Details as to the manner of allotment will be available later.

Applications wlil be received only from those who had similar licenses in the season of 1921 and the date limit for receiving applications has been set for December 1, owing to the fact that the licenses in future will be issued for the calender year, and the setting of the above date will leave one month for the allotment and the advising of those interested.

All applications must be received in the *Office of the Chief Inspector of Fisheries* in the *Molson's Bank Building,* Vancouver, on the above date and any received after December 1, will *not* receive consideration.

SAYS NOT SEATTLE MOVE

The Poindexter Alaska fish amendment to the tariff bill is not designed to force the shipment of Alaska halibut through Seattle at all, and, if it becomes the law, it probably will not do so. Alaska fish may continue to go east over the Grand Trunk Railway, but it must be put in cold storage and bonded at an American port if it is to avoid the two cents a pound duty. It would bring the buyers from Prince Rupert to American towns, affording similar competition among buyers as now prevails. In fact it would improve the situation because all buyers would be brought into direct competition in the bidding, whereas now, when the fish are taken to Prince Rupert, buyers in Alaska towns are really barred by the fact that fishermen, having their boats there, are practically forced to sell to some of the buyers at that place. The Poindexter amendment would bring the buyers for Seattle and other points at the south and those who purchase to ship East over Canadian lines up against each other.—Juneau-Empire.

Brown started out without a cent;
He's rich now and still rising,
Some say 'twas luck; others say pluck;
He says 'twas advertising.

BREEDING BUTTONS

So anxious are the button manufacturers to perpetuate the supply of a material indispensible to their industry that the National Association of Botton Manufacturers is co-operating with the government fisheries bureau in efforts to propagate artificially the pearly mussels in streams and lakes of the Middle West.

The fisheries bureau now makes a regular business of rescuing millions of fishes which each year are left stranded in drying-up pools by the retreating overflow waters of the Mississipi and Illinois rivers. Large umbers of them, before being restored to their native element, are inoculated with the larval glochidia of pearly mussels. The Button Manufacturers Association is furnishing men to help in his work.

During last October and November seven agents of the button makers accompanied for this purpose seven rescue crews sent out from the fish hatching station at Homer, Minn., and nearly 6,000,000 fishes were inoculated with about half a billion glochidia. The latter fasten themselves upon the gills of the fishes (this accomodation being necessary to enable them to pass through a stage of their development) and some weeks later drop off. They quit the finny nurse and take care of themselves thereafter.

The inoculated fishes were liberated in Lake Pokegama, Minn., and at several places in the Mississipi river. It is worth while to all that only the spawn of exceptionally fine varieties of mussels is used, such as the river mucket and Lake Pepin mucket. The cost of planting mussels in this way is less than six cents per thousand.

ALASKA RED TO BE LABELLED

Beginning Sept. 1st, all canned Alaska Red Salmon imported into Canada must bear the label "Alaska Red" only and cannot bear the word "Sockeye" on the label. This is according to the amendment of the "Meat and Canned Foods Act" of 1922.

All canned Alaska Red Salmon imported prior to Sept. 1, 1922 may be sold as at present marked.

This means that the lower priced fish cannot now be sold as sockeyes at a scokeye price which was the case previously. This is a condition which should have been remedied a long while ago as the canners did not get a square deal while previous conditions existed, but now the sockeye will sell at its proper price and the Alaska Red will also sell at its proper price. It may be that the public may have to be told the difference between the prices of the two varieties of fish so that they will not be mis-lead. It is up to the salmon canners to see to this.

Turtle Starts Something

The little Gloucester fishing schooner Gorilla was nearly overturned by the struggles of a huge turtle of the black diver type, which members of the crew harpooned southeast of Nantucket south shoals lightship recently. The vessel brought the turtle to Boston. It weighed 1,500 pounds, it was seven feet long, ten feet across from flipper to flipper, and nine feet in circumference. Though badly wounded the turtle lived until last night. It is of a species usually found in the Gulf of Mexico.

The blue whale is the largest creature alive today.

PACIFIC COAST SECTION

Atlantic Salmon Established in Pacific

British Columbia jubilant over successful transplanting of famous game fish — Effort will be made to develop species.

By ROBERT DUNN

The Atlantic salmon has been successfully established in the waters of the North Pacific. John P. Babcock, Assistant Commissioner of Fisheries, believes this has been accomplished and makes the announcement, confident that the achievement will be appreciated by anglers and all interested in the improvement of the piscatorial attractions of the waters of B. C.

Major L. C. Rattray of Sahtlam, has presented to the Provincial Fisheries Department, the heads of two adult Atlantic salmon (Salmo salar). These fish, one of seven pounds and one of nine pounds, were caught in the Cowichan River by Major Rattray and by a friend. The catching of these fish in the Cowichan is a noteworthy event.

On this subject Mr. Babcock makes the following statement:

"So far as we can learn no other adult Atlantic salmon have ever been taken from any other river on the Pacific coast. During the last thirty years, repeated efforts have been made to establish these fish on the Pacific coast of America. California has made repeated attempts to acclimatize them in her waters by planting the young, hatched from eggs sent to the coast from hatcheries in Maine, and plants of fry have been made in Oregon and Washington.

"The specimens furnished by Major Rattray are the first authentic evidence furnished the Department of their existence in the waters of this Province. Several times during the last two years we have been advised that adult specimens of the Atlantic salmon had been taken from the Cowichan, but conclusive evidence to establish the fact has not previously been furnished. The taking of these fish establishes the fact that the waters of the Cowichan and the estuaries and salt water reaches adjacent to its mouth meet the requirements of the Atlantic salmon. These captures warrant continued and extended efforts to establish a run of this great game and food fish in our rivers. For unquestionably these fish came from the plants of fry of Atlantic salmon, made from the hatchery on the Cowichan.

Best Fish in the World

"The Atlantic salmon is one of the best known and highly prized game fishes in the world. Many experienced anglers assert that weight for weight it is the gamest of all fish.

"The Atlantic salmon (salmo salar)—the European salmon, the salmon of the Atlantic streams of America—is the true salmon, the only fish scientifically entitled to the name salmon. Pliny first used the name salmon over nineteen hundred years ago when he wrote. 'In Acquitania the river salmon surpasseth all the fishes of the sea.' The Normans took the name to Britain. Cabot on reaching Newfoundland in 1497 recorded that salmon were abundant in the rivers there. These fish are not, however, indigenous to the waters of the Pacific Coast of America. The fish in our waters that we call salmon are strictly speaking not salmon at all. Scientists place them in another genus, known as Oncorhynchus, because they differ both in structure and in habit from the fish to which the name salmon was first given. Early settlers on the Pacific who were familiar with the Atlantic salmon on finding a fish so closely resembling them in our coast rivers, called them salmon. They failed to note the difference in structure and in habit. The canning of the Pacific fish for the last forty years under the name salmon, has made them the salmon of the world. Pure Food Boards recognize them as salmon, and the men who tell us that our salmon are not salmon have been termed 'hair splitters.'

"The Pacific salmon differ structurally from the Atlantic salmon. They have an increased number of rays—12 to 14—in the anal fin, an increased number of folds beneath the gill-covers, termed branchiostegal rays, an increased number of gill-rakers, and a much larger number of pancreatic glands attached behind the stomach.

Different Habits, Too

"The Pacific salmon differ in habit from the Atlantic salmon, in the fact that their young, after migrating to the sea do not return to fresh water until they are sexually mature, and all die after spawning. The Atlantic salmon in structure and in habit more closely resemble our steelhead trout than our salmon. The young of the Atlantic salmon may return to fresh water before they are sexually mature, when they do so they commonly return to the sea before spawning, and when mature, again return to fresh water for spawning, and then again enter salt water. Atlantic salmon have been known to spawn several times during their life. Comparatively few Atlantic salmon die after spawning once.

"The catching of adult Atlantic salmon in the Cowichan River is certainly a notable event, a most pleasing and promising fact. It establishes that conditions in the Cowichan and in the nearby sea are favourable to the life of these famous fish. It establishes that by persistent efforts our rivers may be stocked with these great game fish.

"The Cowichan has long been recognized as one of the best fishing streams in the Province. Its value is becoming more and more recognized. It is a great drawing

card. One of our great sports-fish assets. It is therefore in the public interest that the Cowichan should receive from the fishery and local authorities, and the anglers of Vancouver Island, the closest attention and protection. Every care should be exercised to safeguard its fish. Every effort made to main its game fish and to increase their numbers.

"I have fished the Cowichan for twenty years and desire to testify that water conditions there are improving. Now that logs are no longer floated down the river to market, the channels are becoming more and more favourable to the production of aquatic life on which fish principally feed. The deep pools that were filled with sand and gravel by the scouring of logs are being restored to their natural depth and conditions by floods. Fish food is increasing. The formation of log jams, that are deplored by some, are improving conditions from a fish point of view, by increasing the stretches of deep water and by affording shade and shelter for big and little fish, and the many forms on which they feed. Every prospect but one, on the Cowichan favors an increase in its finny inhabitants.

Weirs are a menace

"The weirs placed in the river by the Indians, alone, in my judgment are a serious menace. The time has come when the government should step in and acquire any right the Indians may have to place weirs in the Cowichan, or to take fish by other means than by hook and line. The Indians living on the Cowichan can possess no more right to place weirs in the river than the Indians living in the Fraser River basin had to catch salmon with dip-nets and spears. Two years ago the Dominion Fishery authorities, with the approval, we are told, of the Indian Department, issued orders prohibiting the Indians of the Fraser from taking salmon above the commercial fishing limits. By their order they indicate that they have the power to prohibit the construction of weirs in the Cowichan. If they have that power it should be exercised. If they lack the authority to do so they should purchase from the Indians the rights they may possess. The Cowichan Fish and Game Association may well give this matter attention in their statements to the Fisheries Commission, that will sit at Duncans in September. No other question on the Cowichan is of such pressing importance to the future of that river.

"Angling for salmon and trout on the Cowichan is a branch of productive activity. It may be classed as an industry. It certainly should be treated as an industry. Commercial fishing in Cowichan Bay is prohibited. Fish may be taken there only by hook and line. The use of nets and weirs is not permitted in its waters. If it is necessary, and it is necessary, to prevent the use of nets and weirs in Cowichan Bay in order to protect the fish seeking the Cowichan River to spawn it is manifest that it is necessary to prohibit their use in the river.

Not Suited for Commercial Fishery

"We are frequently told that in the interests of commercial fishing, the trout of our streams should be exterminated. There are some streams in the province that may rightly be set aside exclusively to the production of salmon, but the Cowichan is not one of them. The Cowichan was never a great producer of salmon. Sockeye never enter its waters and the runs of the other four species of Pacific salmon were never very extensive. The Cowichan is an ideal angling stream. It should be so treated. and all commercial fishing prohibited.

"Reverting, however, to the Atlantic salmon, permit me to tell the anglers who fish that river, that the Provincial Museum has no specimen of an adult Atlantic salmon and want an unmultilated specimen. If an angler who is fortunate enough to catch an adult specimen will wrap the fish in dry hay and pack it in a crate and forward it to the Provincial Museum, charges collect, it will be gratefully received and the name of the donor placed on the exhibit and a painted cast of the fish returned to him with the compliments of the Commissioner of Fisheries, the Hon. William Sloan."

Briefs From British Columbia

The arrangments by which the Fishmongers' Company (London, Eng.) is making an accompanying certificate of origin signed by the exporting firm the test of a legally-caught fish in the close season were recently referred to in these columns. The method by which a salmon could be simply wrapped in a cover containing a certificate has been naturally greatly welcomed by the trade as an alternative to the fixing of three leaden seals in the fish for the purpose of attesting its legal origin. We understand that good progress has been made in this direction, the Canadian Ministry of Marine and Fisheries and the Government of Newfoundland having agreed with the Fishmongers' Company upon a form of certificate for both Pacific and Atlantic caught salmon. In future this certificate will be accepted during the close season by the Fishmongers' Company as sufficient indentification of origin, and the necessity sealing will thus be obviated.

Apparently there is some doubt as to recognition being accorded to his revised form of "marking" by the French Government, but it is hoped that as the British Ministry of Agriculture and Fisheries has, together with the Canadian Ministry, endorsed the revision, there will not be in the way of thus facilitating an overseas trade in which many Frenchmen are, of course, interested.

Until the certificates have been arranged for in regard to any section of this important overseas trade the sealing will be continued in that direction.

The arrangements outlined above do not affect the case of salmon caught in home waters. Where these are placed in cold storage before the close season with a view to sale during the close season, they must be sealed by the Fishmongers' Company as heretofore.

It was apparent to a representative of Cold Storage, who interviewed Mr. C. N. Hooper, the clerk of the Fishmongers' Company, that authority has done and is doing everything in its power to expedite this matter so that the certificate system of identification may become universal as soon as possible. — Cold Storage.

Buys Sinclair Plant at Rupert

John Dybhavn, manager of the Royal Fish Co. of Prince Rupert, B. C., announces that his company has bought the plant and business of the Sinclair Fisheries Limited. The company is now occupying the Sinclair plant and has closed up its former establishment.

Booth Company Seeks Damages

A commission has been ordered in an action of the Booth Fisheries Canadian Company Ltd. vs. the Canadian Express Company. The commission will issue in Chicago, head office of the plaintiff company. Evidence will be taken there regarding a shipment of halibut from Prince Rupert three years ago. Damages of $6,206 are claimed by the Booth Fisheries because of alleged delay on the part of the transportation company. Instead of selling on the market as fresh fish, it is declared, it was necessary to freeze the halibut and take a loss.

B. C. Salmon Pack for 1921

The salmon pack of British Columbia for the year 1921 amounted to 603,548 cases, composed as follows:

Sockeyes	163,914
Kings	49,452
Cohoes	124,348
Pinks	192,906
Chums	71,408
Steelheads	1,220

Alaska Salmon Prices

The Alaska Packers Association set their opening prices the latter part of August as follows: (These prices are per dozen cans) Reds in tall one pound cans $2.25; flat halves $2.00; flat pounds $2.75; Chinooks or kings pound talls $2.00; half flats $1.75; one pound flats $2.25; medium reds, one pound talls $1.35; half pound flats $1.10; one pound flats $1.60; pinks, one pound talls $1.15; half pound flats $0.85; pound flats $1.40; chums, one pound talls $1.05; half pound flats $0.70.

Buyers Should be Watchful

When you buy a can of sockeye salmon this year you will get sockeye. Alaska Reds will be sold "as are" this year as the Government has decreed that when an Alaska Red is sold in Canada it shall be sold as such and cannot bear the stamp of "Sockeye" on the label. The name sockeye was originated by the British Columbia salmon canner and there are no "just as good" canned salmon as the Fraser River or British Columbia sockeyes.

The wholesaler and the retailer should see that when canned sockeye salmon are ordered that their customer gets what they ask for every time.

No Purse Seines in Columbia

The Washington state fisheries laws were upheld at Tacoma recently in the United States district court which decided that purse seine fishing in the Columbia river is illegal. Three federal judges, including Judge W. B. Gibert of the circuit court of appeals at San Francisco; Jeremiah Neterer, of Seattle, and Edward E. Cushman, of Tacoma, reachel a unanimous decision in favor of the state fisheries board at the hearing yesterday.

British Columbia Fish Carrier Destroyed by Fire

The fish carrier Tashmoo, owned and operated by Messrs Grant and King, of Vancouver, B.C., was burned while at Cypress Island, near Kingcome Inlet, on August 7. The Tashmoo was a gasoline power boat 45 feet long and 13 feet beam, built in Comox, B.C., in 1919.

The officers and crew of the Tashmoo were picked up and brought into Vancouver by the Gasoline fish carrier Newcastle No. 6, owned by Ode Bros.

Tourists Interested In Salmon Canning

Many tourists from the east and the Old Country are making the trip to Steveston from Vancouver to see the salmon canneries in full operation this season. In the days of the big runs it was a wonderfully interesting sight to go over to Steveston and see the salmon fleet put out on a Sunday night, after the week-end closed season, and set their nets at the mouth of the river. Those days are passed and now it is a case of finding out if the canneries are going to run on the day you wish to see the cannery in operation as there are not always enough fish to make it worth while to operate.

Opening Prices on Canned Salmon

The opening prices as issued by the B. C. Fishing and Packing Corp. are as follows:

	1 lb. Talls	½ lb. flats
Sockeye	18.00	19.00
Extra Red Spring	13.00	14.00
Standard Red Spring	10.00	11.00
Cohoe	8.00	9.00
Pink	5.00	6.75
Chum	4.00	6.00

No quotations are being made on one pound flats this season.

The Canned Salmon Market

With the issuing of the opening prices the sellers of canned salmon are getting busy and there should be some movement in the market from now on.

There are some reports of sales of chums and pinks and in fact it is understood there are as many pinks and chums already sold as were packed the entire season last year.

Cohoes are not being packed this year, except as they are brought in with other fish, owing to the poor demand last year.

The new ruling regarding the marking of Alaska Red Salmon will without doubt create a larger demand for sockeye in Canada than last year. There is a demand for the sockeye direct from the public and if the label does not say sockeye they will not take the can. This has been proved by surveys of market conditions.

Pinks Running In Northern B. C.

It looks like a good pack of pinks on the Skeena and at some locations on Queen Charlotte Islands. Reports are that the fish are running well and that catches are good.

Well-Known Buyer For Northern B. C. Fisheries Passes On

Gerald Barry, buyer for the Northern B. C. Fisheries of Vancouver died at Prince Rupert on August 6. Mr. Barry who was only 29 years old, was a veteran of the late war, and was well and favorably known in the salmon canning industry. His father has been with the Wallace Fisheries for a good many years.

Mild Cure Pack

The mild cure pack of spring salmon in British Columbia will be larger, as a total, during 1922 than in 1921, but is put up by a larger number of firms.

Good Smelt Run

The silver smelt run came in earnest and the fishermen got very good hauls. The supply was quite sufficient for the needs of the fresh fish market in Vancouver and also for shipping. The cold storage supply was taken care of also.

The run starts about the first of July and continues until the latter part of August.

TWO SPECIES PACIFIC HERRING

During last year the Bureau of Fisheries, Washington, issued a memorandum dealing with the distribution, migrations, sizes, and spawning times and places of the Pacific herring in southeast Alaska and British Columbia, based upon the observations of D. R. Crawford, scientific assistant.

There are apparently two races of herring (Clupea pallasii), one of which resides in the bays and inner waterways along the coast from Puget Sound northward to British Columbia and southeast Alaska. The other, which is composed of larger individuals, passes along the outer coasts where it is taken off Vancouver Island in June, July, and August.

The smaller race of herring is found to be sexually mature in the summer, but no milt or roe is found during the winter. Sexually mature individuals vary in size from 6 to 10 inches. The probable spawning time is late summer or early fall. The larger race of herring reaches sexual maturity in the fall and winter, the individuals varying in size from 9 to 12 inches or longer. The probable spawning time is winter or early spring.

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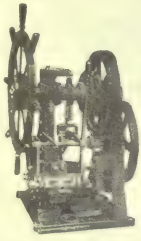
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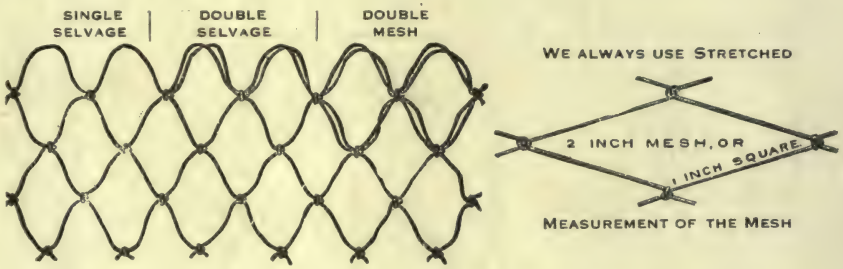
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Official Organ of the Canadian Fisheries Association

A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada, and Technical Education of those engaged in the Industry.

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SUBSCRIPTION

Canada, Newfoundland and Great Britain $2.00
United States and Elsewhere $3.00
Payable in advance.

Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, **Gardenvale, Que.**
Telegrams and Express Ste. Anne de Bellevue, Que.

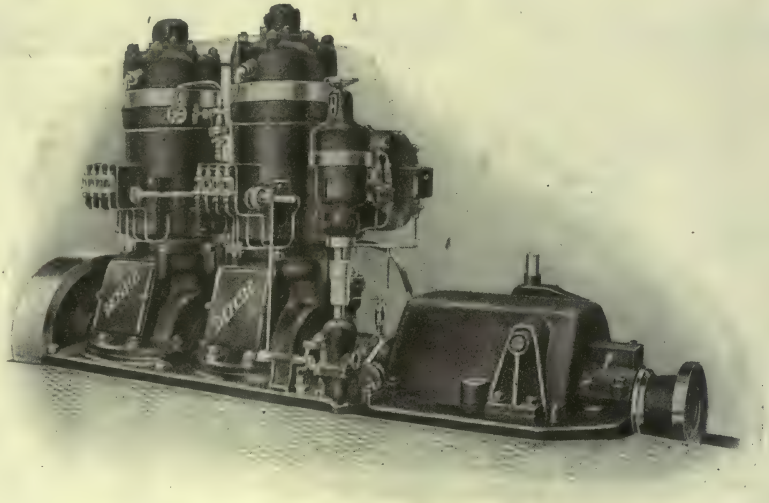
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J. W. Thellab, Amherst, Magdalen Is. P. Q.
D. G. Dobson, Midland Ont.

Other Agencies are in process of negotiation.

The Crude Oil Engine Co., of Canada

14 PLACE ROYALE MONTREAL

EDITORIAL

JAMES H. CONLON, Editor

NEW TARIFF MAY WAKE US UP

The fact that the movement of fish to the United States was greatly stimulated when the adoption of the Fordney-McCumber tariff law became imminent, seems to relieve anxiety as to the future of our fish trade with the United States. The new tariff wall was shot up on September 21. Two weeks prior to that our distributing houses were kept busy filling surplus orders. American buyers, apparently, were storing Canadian fish to the limit of their capacity before the tariff bolt struck.

Why? Why did these buyers lay in any extra supply if, as some would lead one to believe, they may always obtain an adequate supply from domestic sources? Why let the tariff worry them, if it is true they need not buy Canadian fish and pay the duty, but may simply transfer their business to American distributing houses or producers? The truth is that the United States does not and cannot produce fish in sufficient volume to supply its populatoin and must, if it chooses to eat fish, buy from its neighbors.

Just bear in mind a few facts. During the past ten years Canada's fish production has averaged in value $40,000,000. Our production was not limited because of shortage of supply but rather because of limitation of markets. We have now only nine millions of people to feed and only between one-third and one-half of our fish is consumed at home.

For present purposes let it be assumed that the per capita consumption of fish in Canada is the same as that in the states, although in truth we consume a few pounds more per capita. The production in the United States is worth between $70,000,000 and $75,000,000, *but* our American friends in the fish-producing business have 110,000,000 people to feed where we have only 9,000,000. In other words they have less than twice the volume of fish to supply a population more than twelve times as great.

The United States is a wealthy nation, probably wealthier than any other nation since the dawn of history. Its people are prosperous and do not stint themselves while their pockets are full. Does it seem logical that for the sake of a cent or two per pound. Mr. American is going to deny himself fish that he likes? Hardly. And, mind you, we have species of fish, particularly those from our fresh water areas, for which the American people have a splendid appetite, and which, while available, are procurable in but infinitesimal quantities in their own country.

It is folly to suppose that the tariff is going to ruin the American market for our fish. It has been taking about twenty or twenty-five percent of our total production simply because the country requires it. We experienced a duty on fish between 1909 and 1913 but statistics show that we still did a fish business with the United States.

The usual result of a tariff of the nature of the present one in the states is to make its own citizens pay. For a few months or a perhaps longer period there may be a falling off in our business across the line until prices reach the new tariff basis, but it should not discourage us. Such a situation may prove a blessing in disguise by forcing upon our producers the necessity of developing the home market to absorb the surplus. There has been a good deal of talk in all quarters in the last few years about developing the domestic market, but unfortunately it has stopped at talk. Certainly there is a tremendous opportunity to develop the industry by getting our people to eat more fish. They are now consuming but twenty pounds where in Great Britain people eat fifty-six pounds each year. But it can't be done by simply talking or by depending upon a few paltry dollars spent by the government. Do as any sensible business man would do when he wants to develop a market. Spend some money on propaganda. The sooner producers do this and get down to brass tacks the sooner will they reap the benefit. Cut out jealousies and picayune affairs. Get shoulder to shoulder and heave. If you won't do it who do you expect will?

SAVE SALMON BY KILLING DOGFISH

D. Saunderson of Vancouver, giving evidence before the Royal Commission in British Columbia, recently, intimated that restrictions on salmon fishing were more or less a farce as long as the dogfish were permitted to prey upon the species. He declared that dogfish destroyed more salmon each year than canneries and fishermen combined and attested to seeing schools of the marauders from three to five miles long moving in salmon areas.

If what Mr. Sounderson says with reference to the extent of the damage done by the dogfish is true then his remark about the futility of restrictions on fishing is quite logical. Assuming it to be true, and judging by the statements of other witnesses before the commission, there is little reason to doubt it, then it behooves the department

at Ottawa to concentrate for a time on eliminating this extravagance. We are now endeavoring to restore the sockeye to its former prolificacy by artificial propagation and nurture and the results are questionable. The salmon harvest each year is worth millions and millions of dollars and if it can be doubled by ridding the waters of the Pacific of the destructful dogfish then Ottawa would be quite justified in investing millions of dollars in the enterprise.

Mr. Saunderson explained to the commission a system he had devised to manufacture dogfish into good animal feed and Mr. Duff was much interested and promised to give the matter serious consideration.

It is strange that just at this time a firm at Prince Rupert should be launching a project to commercialize the dogfish. A trawler has been secured to fish off Stevens and Dundas Islands. The marketable fish are to be sold through regular channels and the dogfish will be taken in scows to the reduction works.

The government itself a few years ago experimented with reduction works in the east with more or less disastrous results financially. But on the Paficic coast, insofar as the government is concerned, the saving of the salmon should not be a matter of financial consideration. If private capital, having the enterprise to launch upon the scheme, finds it commercially unprofitable, then it would appear good business on the part of the government to subsidize and offer every reasonable encouragement to continue the molestation of the dogfish.

Witnessess before the commission offered various suggestions to eradicate the pest, such as paying a bonus of $2 a head, but it is doubtful if any plan will prove as effective as private enterprise on a large scale stimulated by the urge to establish a paying business.

QUEBEC LAW NEEDS AMENDING

Because of the altered arrangements as regards jurisdiction over Quebec fisheries it is altogether likely that the Quebec Fisheries Act will be amended. Reports to this effect are strengthened by the visit recently to Quebec city of W. A. Found, assistant deputy minister of fisheries at Ottawa, who was in conference with Hon. J. E. Perrault regarding relations between the federal and provincial fisheries departments.

The Canadian Fisheries Association has suggested to Hon. Mr. Perrault that there are many provisions of the present provincial fisheries act in need of amendment and the advise of the association has been placed at his disposal. It is presumed that the minister will realize the advantage of utilizing the expert opinion within the association and it is hoped to have amendments introduced during the next year which will permanently remove certain nuisances with which the trade has been contending for some time. The weaknesses and injustices of the present law were not fully realized until overzealous officials attempted to enforce it to the letter.

OUR MOVE NEXT

When the United States decided early this year not to allow Canadian fishing vesssels free access to their ports, considerable agitation was created in Nova Scotia for the revoking of special privileges given American fishermen in our ports. As a compromise between two schools of thought the government early this year restored the *modus vivendi* license which began in the early eighties, under which the Americans may use our ports freely upon the payment of a fee of $1.50 per ton. This policy endured scarcely two months, however, when, due to the disturbance raised by small storekeepers and others who profited by calls from American fishing vessels, the war arrangement of 1918 was restored and vessels were given the use of our ports on the payment of a nominal fee—$1. The quick change of policy showed a weakness on the part of the government, a too ready assent to the whinning of a few suffering in pocket, and a too thick-skinned disregard of our national dignity.

With the passing of the U. S. tariff law the situation becomes vastly altered. No objection was raised by Nova Scotia fishing interests to the government's policy pending Washington's decision on the tariff issue. Now that it has gone against us, we must take steps to protect our own interests. Obviously the purpose of the new tariff is to protect the American fishing industry and if our cousins feel disposed to use that weapon is Canada not justified in using her natural advantages to protect her own fishing industry? Our friends across the border, with quite pardonable pride, advertise to the world that Gloucester is the hub of the fishing industry on this continent, but analysis of the true situation discloses the fact that Gloucester prospers as its does very largely because it has been able to attract to her service, bright and brawny fishermen from Nova Scotia, who now comprise the cream of New England's fisher folk. We cite this fact, not in any spirit of unfriendliness, and we know our neighbors are sufficiently broadminded to know it. We are too closely related to maintain drawing room niceties. Rather do we consider ourselves of the one family, where brothers and sisters are not restrained from "speaking out," but at the same time are able to do so without losing brotherly and sisterly affections.

Now the question confronting Canada is this: Is it sound national policy to grant a competing neighbor the same use of our ports as we ourselves enjoy, while we are deprived a reciprocal privilege in theirs? If American policy is to stifle our competition we as a business people are bound to look for an antedote. Our industry must survive and now is not the time for weak-kneed political jugglery. We believe opinion will be twenty to one in favor of protecting our industry, utilizing our natural geographical advantages and instituting a policy which will offer sufficient inducement to keep our fishermen at home.

The industry will await with deep interest the action

of the government. It is hardly possible it will maintain the present arrangement. That would scarcely be in keeping with the circumstances. Anything but a sound, well-considered policy may prove serious to the industry and to postpone consideration of the problem may have equally disastrous results.

FISHERMAN CARPENTIER

Georges Carpentier, the former French idol of the ring, who was so effectively deposed from the pugilistic throne by Senegalese Siki, is going into the fishing game. If he is looking for a rest after the terrible punishment from the hands of the negro, he's making a beautiful mistake. If he intimates to any fisherman the world over that there is rest to be had in the fishing game he may expect a dose similar to the one Siki handed out. To use classic language, there ain't no such thing in the fishing game as a soft berth. A professional pugilist's job is a joke to a fisherman's.

However, Carpentier has bought two new trawlers, according to a Paris report to the *London Daily Chronicle*. One he has christened Jacqueline — the name of his daughter, and the other Denise—the name of his manager's daughter. Carpentier had intended to engage in a few more battles for the sake of satisfying his many admirers, and incidentally acquiring a few more "roots of all evil". Then it was his scheme to retire an undefeated light heavyweight champion of the world and squander his copious francs in an endeavor to squeeze money out of fish. Siki rudely upset the programme so that Carpentier can start right in spending his money. We hope he succeeds and, frankly, we admire his courage. On this side of the Atlantic opportunities in the fishing industry are princely as compared with those in France yet it is about as easy to pry capital from our moneyed men in Canada for investment in fishery enterprises as it is to light a match on wet seaweed.

FEATURES OF ANNUAL FISHERIES REPORT

The annual fisheries report for the year 1921 is out and without doubt it is the most informative, the most interesting and the most valuable that the department has ever issued. It contains just the information those in the industry desire to know and is stripped of all lack-lustre details which usually encumber and destroy the interest of government reports. From year to year the department has been improving the compilation of its report and its officers are deserving of congratulation upon their accomplishment this year. We receive fishery reports from all quarters of the world and we own with frank pride that ours is the most complete and the most useful document of that character compiled.

The blue book is crowded with worth-while material. It would not be doing justice to the report nor to our readers to attempt to review it in a single issue. In the present number we have reproduced the review of the fisheries for 1921 and, although the facts themselves are far from pleasing, the manner of presenting them is excellent. Our readers would do well to secure a copy of the report from the King's Printer, Ottawa, or from the Fisheries Department, and we would draw special attention to what it has to say about the compulsory inspection of pickled fish, the distribution of the fishing bounty and the artificial rearing of fish eggs.

In succeeding issues we propose to discuss various features of the report, and that which deserves the most serious consideration, we believe, is the fishing bounty. There is serious fault to be found with it, not with the report, but with the policy upon which this piecemeal distribution of money is based. That this waste, literal waste, of $160,000 per year is permitted and has been tolerated for more than a quarter of a century when the industry as a whole is crying for more money for necessary development, is nothing short of criminal, and the sooner some definite action is taken to have it properly and sensibly applied, the better. The game of petty politics may render it difficult to take this pass-out from the fishermen, but any man with ordinary intelligence should not find it difficult to persuade them that it could be used to better advantage in lump than by shredding it into pattry portions. The only issue which arises is whether the money should be applied for developing and improving the industry generally, or whether its application should be limited to the Atlantic district. That does not appear to offer a very grave obstacle, at least not serious enough that $160,000 should be wasted annually in preference to facing it.

As we have said, later on we shall have more to say on the question.

PISCATORIAL PARAGRAPHS

The fishing industry will rejoice with others that Hon. J. A. Robb is going to Australia for the purpose of negotiating a reciprocal tariff arrangement with the sister dominion. Judging by preliminary correspondence there is every likelihood of a friendly trade agreement with our blood relatives in the antipodes. During recent years our fish exporters have made considerable progress in the Australian market and with the assistance of a preferential tariff their advance in the field should be *accelerated greatly.*

At the same time we are interested in the efforts of Hon. W. S. Fielding and Hon. Ernest Lapointe to secure a trade agreement with France. The dominion had an understanding with France which worked satisfactorily, but it was cancelled a year or so ago. There is room for optimism that the new scheme will be even more advantageous to Canada than the previous one.

Bluenose will again defend Trophy

Extremely likely that Gloucester fisherman Henry Ford will represent the United States.

The Lunenburg fishermen Bluenose, Captain Walters, which wrested the championship of the North Atlantic from the United States last year, has won the right to defend the Dennis trophy off Gloucester this month. On Saturday, October 7, in competition with the Canadia, Mahaska and the Margaret K Smith, of Halifax, the Bluenose readily demonstrated her prowess. On the Monday following conditions were so bad that the race could not be finished within the specified time limit. On Tuesday similar conditions prevailed, but the Bluenose in each of the events, satisfied the race committee that she was the speediest vessel.

Awards for the preliminary races were made at a banquet at Halifax as follows:

First—Bluenose, Lunenburg, Captain Angus Walters, $500 and Nova Scotia championship trophy.



Champion "Bluenose"

Second—Canadia, La Have, Captain Joseph Conrod, $1,000.

Third—Mahaska, Lunenburg, Captain Emil Mack, $800.

Fourth—Margaret K. Smith, Captain Frank Whynacht, $700.

Looks Like Henry Ford

The Henry Ford won the first of the elimination races off Gloucester and, although the second of these contents had not been run at the time of writing it seems very likely that Ford will represent the United States.

The Mayflower of Boston, which was eliminated from the international event by the trustees, has been endeavoring to arrange a race with the winner of the big event, but at present the prospects for this do not seem very good. If the Mayflower is not considered a fisherman eligible for the international race we doubt if any good purpose would be served by a later race between the winner and the Boston schooner. If a purse sufficiently large is put, however, one cannot blame the skippers for making a stab at it.

STRANGE FISH WANDER IN

Puget Sound and neighboring harbors have been invaded by mackerel, cod, halibut and other known and unknown species of fish. Thirty thousand pounds of plaice were taken in a single haul, and a thirty pound cod was caught from a wharf; near Bremerton Navy Yard seiners discovered huge quantities of a tiny fish resembling the Norway sardine. This inshore movement of fishes, says the *Scientific American* is laid to a great earthquake that disturbed the floor of the Pacific and caused an abrupt change in the currents of the Northwest coast.

PORPOISES TRAPPED

Half a dozen big fish, declared by some to be porpoises and by others "pot head" or pollock whales, were trapped in a shallow pond of sea-water off Glace Bay Beach the latter part of April. They were apparently chased in by unfriendly species and were later unable to get out. One of the monsters was shot and dragged ashore and was found to measure thirty feet in length. Much of its meat and blubber were removed for various purposes while teeth and other portions were taken by souvenir collectors. An effort was made to lasoo one of the creatures and haul it ashore alive.

WHITEFISH PLANTED IN B. C.

An attempt to introduce Lake Superior whitefish into British Columbia was made last February when seven million whitefish from Port Arthur were transferred to Lilloet Lake for release in this great fishing center of the province.

The Royal Commission which sat recently in British Columbia to straighten out its fishery problems, has presented its preliminary report to the acting minister of marine and fisheries. We know it contains many constructive recommendations, but we are haunted with the recollection that previous commissions have studied the same or similar questions and their reports have been reposing peacefully in pigeon-holes ever since. It seems to be up to members of the commission themselves to see that their good work bears fruit.

National Fish Day--October 1922

Do your Share to make it a success

October 31 is National Fish Day. The executive of the Canadian Fisheries Association decided upon this at its October meeting and members of the organization were promptly notified. The fall season of the year is considered preferable to the spring and that the view of the executive is generally approved is demonstrated by the numerous letters received.

A. L. Hager, president of the association, and J. A. Paulhus, vice-president, who conceived the National Fish Day idea, invite the trade to take full advantage of the occasion to bring home a message to the people. With the temporary loss of the United States market there is more than ever a necessity to increase local consumption. All branches of the industry will profit by co-operative effort and each and everyone may render valuable aid by exerting additional individual effort.

Our president rightly points out that the industry is placed in our trust and besides increased prosperity which may accrue to each and everyone of us, there is the industry—the property of the nation—which must be developed. Leaders in the industry are doing their share but until everyone—from the source of supply to the retail dealer—takes a like interest the prosperity and development we hope for will be deferred.

There is an opportunity for exercising initiative. The Canadian Fisheries Association has organized publicity in a national way, but it must be supplemented in a local way. Advertising mediums are strongly recommended to individual dealers and where the population of the centre warrants, dealers are urged to co-operate in their publicity schemes. Through the Fisheries Department, Ottawa, the entire country is being personally canvassed, insofar as public eating establishments are concerned, to duly recognize the occasion. Railways have promised to feature the event. Newspapers throughout the country are being supplied with literature. In Montereal a co-operative newspaper advertising campaign is being conducted and various other means are being employed to attract public attention. These facts are conveyed to you to furnish some hint as to what you may do.

Don't fall down on the job. If everyone shirked we would get nowhere, and can you honestly expect others to shoulder the burden while you merely participate in the benefits? Get the spirit. Show some pep.

HEAVY LANDINGS AT PRINCE RUPERT

A tremendous catch of fish, amounting to nearly 8,000,000 pounds, was landed at Prince Rupert, B. C., during July. Of this nearly 6,000,000 were salmon. The bulk of the salmon catch was taken directly to canneries in the Prince Rupert district, but they, being taxed to capacity, were unable to handle such quantities and thousands of pounds of the fish were thrown away during the month. Over 2,000,000 pounds of halibut, flounders and cod were netted.

PLENTY OF SARDINE HERRING

Fish of all kinds are plentiful in the waters of Charlotte county N. B. The supply of sardine herring is greater than can be handled in the factories at eastport and Lubec and the price has again dropped to $5 per hogshead. The catch of hake is larger than it has been for several years.

Herring have been so plentiful recently that several Eastport factories have been running evenings to take care of the perishable fish. The average sardine worker does not object to this extra night work as it will bring in a larger weekly pay envelope after many weeks of short time and limited factory work while fish were scarce in all parts of Passamaquoddy Bay. The sardine factories are now having their busy canning season. Signs are promising for the fall catches and there are indications of steady employment in the canneries. Lubec and other sardine centres also report fish plentiful and the factories busy.

U. S. FISHERIES ASSOCIATION

Intense enthusiasm marked the annual convention of the United States Fisheries Association held at Atlantic City September 21 and 22. The attendance was large and representative of the American industry from coast to coast. A courteous invitation to attend was extended to the executive officers and members of the Canadian Fisheries Association and D. J. Byrne, past president, was invited by the association to extend greeting to our American cousins. Mr. Byrne was royally received. The warm friendship that exists between the two associations was very apparent and the desire is strong on the part of each that this should endure.

Developing Canada's Fisheries

By Professor Edward E. Prince, LL.D., F.R.S.C.
Dominion Commissioner of Fisheries, Ottawa.

The fisheries of Canada are not the fisheries of a single country of kingdom, but of half a continent. Carried on in the waters of two oceans, the Atlantic and Pacific, and along vast territorial stretches inshore, as well as upon a system of great lakes and inland waters without parallel, they easily rank among the leading fisheries of the world. Their amazing productiveness has been known for over a thousand years, The Norse Saga, telling of Erik the Red's voyages, or rather of his son Leif, speaks of seafish and salmon as abundant. "every brook" (it states) "being filled with fish in Vinland," and, five hundred years later, there are records showing that a fleet of ships, English, French, Spanish, and Portuguese, annually exploited the Atlantic "Banks" off Canada's shores, while in 1535 Jacques Cartier saw numerous fishing craft, and testifies that "fishes of all kinds ever heard of" abounded in the Gulf of St. Lawrence. To this day vessels, flying the flags of many nations still exploit these prolific waters.

Comparison With Other Countries

Compared with the fisheries of leading nations our fishing industries rank third, being exceeded by Britain (value about $94,000,000), and by the United States (value about $76,000,000), but they are double the value of the Norwegian or the Danish, or the Japanese, and five times the value of the Dutch fisheries, and over seven times the annual value of the fisheries of Newfoundland ($4,700,000), or of Italy, or Portugal (each about $4,270,000).

Value and Weight of Annual Catch

During the last decade the weight and value of our catches have fluctuated, especially during the war, as the following totals show:—

1912	33,389,464
1913	33,207,748
1914	31,264,631
1915	35,860,708
1916	39,208,378
1917	52,312,044
1918	60,250,544
1919	56,508,479
1920	49,241,339
1921	34,930,935

Thus the average value during the last ten years has been about $40,000,000, and the total weight of fish taken from the waters of Canada, inland and marine, yearly, amounts at the present time to no less than 340,000 tons. This appears a large amount, but it is not one-half the quantity which our prolific waters could readily yield. In spite of the fact that capital, vessels, gear, and a large body of Canadian fishermen are employed in the industry on the Atlantic and Pacific coasts of the Dominion and on the inland waters, the number employed being about 70,000 and the capital invested in vessels, nets, canneries, stores and curing houses exceeds $45,000,000, yet it must be granted that the fisheries are capable of great expansion. Indeed, the complaint of the non-progression of our fisheries, frequently made, is fully justified.

Domestic Demand has Great Possibilities

The Canadian home market has been very inadequately supplied and the export market is world-wide. With the ending of the tragic conflict of the Great War, the need of vaster supplies of food products is urgent, and Canada is in a better position to supply the nations with fish than any other country, and on a greatly expanded scale. Our domestic demand for fish could be doubled or trebled if better supplies in a fresh condition, and at reasonable prices, reached our centres of population regularly. No one who has seen the large catches of fine cod and haddock, brought almost daily into our fishing ports along the coast from Gaspe to Grand Manan, can question the possibility of enormous expansion.

To take one example of the growth of fish business in one county where enterprise has been general. In Digby county, Nova Scotia, fifty years ago, the smoked fish business did not exceed $120,000; now the sale of smoked haddock, kippered herring, shredded and boneless cod, etc., in that county alone, reaches nearly $1,000,000 each season and in some seasons the orders received from various parts of Canada exceed the supply.

Excellent Kinds of Fish Wasted

Experts claim that of over six hundred different kinds of fish native to our waters, very few are not of value as food, and yet not more than fifty species have ever been utilized, and only fifteen kinds are in demand in our markets. The Canadian people could readily use one hundred and fifty different kinds of fish. A striking example of the waste of valuable fish is afforded by the sword-fish and tuna, or tunny, both exceptionally fine food on the table. Until ten or twelve years ago these fish were accidentally taken by our fishermen, and as there was no systematic fishery for them, they were caste upon the beach to rot. They were not appreciated, but in recent years as many as 5,000 fine sword-fish, each weighing from 200 to 400 pounds, are being brought to market. In 1913 there were captured in Nova Scotia alone nearly one and a half million pounds of sword-fish, which brings usually from twelve to eighteen cents per pound.

A similar development has since 1908 taken place in the tunny or tuna, fishery, the shipments being made to the United States at very remunerative rates—9 cents to 12 cents per pound; many tuna weigh 500 to 700 pounds each and a day's catch sometimes reaches 70 or 80 of these fine fish.

It seems incredible that within the memory of many fishermen still actively at work, lobsters were regarded as a pest, though the fishery now brings from $3,000,000 to $5,000,000 per annum, and the delicious smelt were thrown on the land as fertilizer, though they now yield $700,000 to $900,000 yearly to the smelt fishermen on the Atlantic coast.

Fish Oil and Fertiliser Unutilized

The great fish-waste and fish-oil industries in Canada have been little developed, though it is claimed that 240,000 tons of fish waste are annually produced on the Atlantic coast, and 60,000 tons on the Pacific, which could be made into fertilizer, glue, oil, and, a large part of it, into good food for the people. In the United States at least 125,000 tons of finished material in the shape of scrap and meal is produced in addition to nearly 8,000,000 gallons of oil.

United States Clamps on Tariff

Levies on fresh fish from cent to two cents per pound—Comparisons with old rates and those of Payne-Aldrich tariff.

The United States high tariff policy has become an accomplished fact. The famous much-wrangled-over Fordney-McCumber measure became law on September 21 and became effective at midnight. The Underwood tariff of 1913 exempted fresh fish from an import levy but the new law exempts nothing but sea herrings and smelts, fresh, frozen or packed in ice, shrimps, lobsters and other shellfish, (except crab meat) fresh, frozen, packed in ice or preserved in any manner, and fish imported for other use than human consumption. All fresh fish, with the above exceptions are taxed with varying severity. Canned and cured fish were moderately taxed in the old tariff, but in many instances this has been augmented tremendously. Probably the most serious increases from the viewpoint of Canadian trade are the tax of 2½ cents per pound on herring and other fish skinned or boned, which heretofore had to pay only ¾ of a cent per pound; pickled herring and mackerel, heretofore free, now taxed 1 cent per pound; fresh salmon, halibut, mackerel and swordfish, previously entered free, now taxed 2 cents per pound. The one cent per pound tax on all other varieties of fresh fish will be a serous problem where the cheaper varieties of fish are concerned.

The levies provided in the new tariff are most severe, at least insofar as fish is concerned, and establish a record in Canada-United States trade relations. The Payne-Aldrich tariff of 1909 was considered more or less drastic at the time but that imposed a tax on fresh fish of only one-quarter cent per pound; on mackerel, halibut and salmon, whether fresh, pickled or salted, one cent per pound; and on herring, pickled or salted, smoked or kippered, one-half of a cent per pound.

The only levies we can find in the Payne-Alrich tariff that are not incorporated with violence in the new law are: fresh herrings, one-fourth cent per pound; eels and smelts, three-quarters of a cent per pound.

Hereunder are set forth the items of the new tariff and comparisons with the rates under the old one.

	Commodity	Old	New
717	Fish, fresh, frozen, or packed in ice: halibut, salmon, mackerel, swordfish	Free (d)	2c. lb.
	Fish, fresh, frozen, or packed in ice, other, n.s.p.f.	Free (d)	1c. lb.
718	Salmon, pickled, salted, smoked, kippered, or otherwise prepared or preserved; finnan haddie	Free (d)	25% ad val.
	Dried fish, salted or unsalted	Free (d)	1¼c. lb.
	Smoked herring, skinned or boned	¾c.	2½c.
	All other fish skinned or boned in bulk or in containers of more than 15 lbs. each	¾c.	2½c.
719	Herring and mackerel, pickled or salted, boned or not, in bulk or in containers of more than 15 lbs. each	Free ¾c. lb. or 15%	1c. lb.
720	Fish (except shellfish) by whatever name known, packed in oil, or in oil and other substances, ad valorem	25%	30%
	All fish (except shellfish, and fish in oil), pickled, salted, smoked, kippered or otherwise prepared or preserved in containers of not more than 15 lbs. each	Free or 15% ad val.	25% ad val.
	Same in containers weighing more, or in bulk	Free or 15% ad val.	1¼c. lb.
721	Crab meat, packed in ice or frozen or prepared or preserved in any manner, ad valorem,	Free	15%
	Fish paste and fish sauce, ad val.	25%	30%
	Caviar and other fish roe food purposes, packed in ice or frozen, prepared or preserved, by the addition of salt in any amount, or by other means, ad valorem,	30%	30%

Note: (d) means not exactly same classification.

Fish Oils

53	Cod, herring and menhaden	3c. gal.	5c.
	Whale	5c. gal.	6c.
	Seal	3c. gal.	6c.
	Sperm	8c. gal.	10c.
	All other n.o.p.	3c. gal.	5c.

Free List

All items appearing in the free list were there in the old tariff.

1575. Fish imported to be used for purposes other than human consumption.

1576. Fishskins, raw or salted.

1658. Fresh sea herring and smelts and tuna fish, fresh, frozen, or packed in ice.

1664. Shrimps, lobsters, and other shellfish, fresh, frozen, packed in ice, or prepared or preserved in any manner, and not specially provided for.

1684. Tar and pitch of wood.

1692. Turtles.

Accesories and Supplies

There may be considerable interest as well in the duties on accessories and supplies and for this reason the following items are reproduced:

Par 334 Fish hooks, fishing rods and reels, artificial flies, artificial baits, snelled hooks, leaders or casts, and all other fishing tackle and parts thereof, fly hooks, fly boxes, fishing baskets or creels, finished or unfinished, not specially provided, except fishing lines, fishing nets and seines, 45 percent ad valorem: Provided that any prohibition of the importation of feathers in this act shall not be construed as applying to artificial flies used for fishing or to feathers used for the manufacture of such flies.

Par 1004 Single yarns, in the gray, made of flax, hemp or ramie, or a mixture of any of them not finer than twelve lea, 10 cents per pound; finer than twelve lea and not finer than sixty lea, 10 cents per pound and one-half of one cent per pound additional for each lea

or part of a lea in excess of twelve; finer than sixty lea, 35 cents per pound; and in addition thereto, on any of the foregoing yarns when boiled, 2 cents per pound; when bleached, dried or otherwise treated, 5 cents per pound: Provided that the duty on any of the foregoing yarns shall not be less than 30 nor more than 40 per centum ad valorem. Threads, twines, and cords, composed of two or more yarns of flax, hemp, or ramie, or a mixture of any of them, twisted together, the size of the single yarn of which is not finer than eleven lea, 18¼ cents per pound; finer than eleven lea and not finer than sixty lea, 18¼ cents per pound and three-fourths of 1 cent per pound additional for each lea or part of a lea in excess of eleven; finer than sixty lea, 56 cents per pound; and in addition thereto, on any of the foregoing threads, twines, and cords when boiled, 2 cents per pound; when bleached, dyed or otherwise treated, 6 cents per pound: Provided, that the duty on the foregoing threads, twines, and cords shall be not less than 40 per centum ad valorem.

Par. 1005. Cordage, including cables, tarred or untarred, wholly or in chief value of manila, sisal, or other hard fibres, three-fourths of 1 cent per pound; cordage, including cables, tarred or untarred, wholly or in chief value of, sunn, or other bast fibres but not including cordage made of jute, 2 cents per pound; wholly or in chief value of hemp, 3 cents per pound.

Par. 1006. Gill nettings, nets, webs, and seines, and other nets for fishing, composed wholly or in chief value of flax, hemp, or ramie, shall pay the same duty per pound as the rate imposed in this Act upon any of the thread, twine, or cord of which the mesh is made, and, in addition thereto, 10 per centum ad valorem.

Par. 1412. Cork bark, cut into squares, cubes, or quarters, 8 cents per pound; stoppers over three-fourths of one inch in diameter, measured at the larger end and disks, wafers, and washers over three-sixteenths of one inch in thickness, made from natural cork bark, 20 cents per pound; made from artificial or composition cork, 10 cents per pound; stoppers, three-fourths of one inch or less in diameter, measured at the larger end, and disks, wafers, and washers three-sixteenths of one inch or less in thickness made from natural cork bark, 25 cents per pound; made from artificial or composition cork 12½ cents per pound; cork, artificial, commonly known as composition or compressed cork, manufactured from cork waste or granulated cork, in the rough and not further advanced than in the form of slabs, blocks or planks, suitable for cutting into stoppers, disks, liners, floats, or similar articles, 6 cents per pound; in rods or sticks suitable for the manufacture of disks, wafers, or washers, 10 cents per pound; granulated or ground cork, 25 per centum ad valorem; cork insulation, wholly or in chief value of cork waste, granulated or ground cork, in slabs, boards, planks, or molded forms; cork tile, cork paper, and manufactures, wholly or in chief value of cork bark or artificial cork and not specially provided for, 30 per centum ad valorem.

Free List

1559. Cork wood, or cork, unmanufactured, and cork waste, shavings, and cork refuse of all kinds.
1625. Nets or sections of nets for use in other trawl fishing, if composed wholly or in chief value of manila or vegetable fibre.
1629. Oakum.

Fish Problems are Discussed

A series of papers prepared by members of the department of biology of the Toronto University deal with various phases of fish problems. Each of the articles has more or less of an economic bearing and the volume forms a valuable contribution to fishery literature.

The first paper by Professor B. A. Bensley, head of the department, presents a plan for the biological investigation of the waters of Ontario. Professor Bensley states that a definite organization has been established in the department for the study of the scientific aspects of fishery problems. This work will be carried out under the title, "Ontario Fisheries Research Laboratory." Considerable equipment for field work has been purchased, and Dr. W. A. Clemens has been appointed limnobiologist to supervise field operations and laboratory work. Much work has already been done in Lake Erie and Lake Nipigon, and a serious of reports is being published. Dr. Bensley emphasizes the importance of the inland waters as fish-producing areas, reviews the development of research in fresh water biology and outlines some of the lines of investigation to be followed.

In the second paper, Dr. W. A. Clemens reports the results of his study of the ciscoes or fresh water herrings in Lake Erie, carried out at the request of the Biological Board of Canala. Four kinds of ciscoes were found to occur, namely: the jumbo, the longjaw, the Lake Erie and the Lake Huron, all extremely important commercially. The Jumbo attains the largest size and a study of the scales show that it grows much more rapidly than do the others. The third paper by Dr. Clemens and N. K. Bigelow shows that the cisoes in Lake Erie feed largely upon microscopic swimming anl floating animals known as etomostraca. These tiny animals are strained from the water as it passes in at the mouth and out the side of the neck over the gills. The enormous numbers of these small organisms which must be present to support the millions of ciscoes is amazing. In the deeper water of the eastern end of the lake a shrimp-like animal known as mysis relicta is a very important food item. J. R. Dymond, in a fourth paper, says Lake Erie is one of the most important fresh water fishing areas in the world.

Another paper by N. K. Bigelow deals with the occurrence and distribution in Southwestern Ontario of a group microscopic animals commonly known as water-fleas (Gladocera). These are extremely important as food for fish, particularly for ciscoes and the young of practically all kinds of fish.

Professor A. F. Coventry in the concluding papers gives a very interesting account of the nest-building and spawning behavior of the land-locked sea lamprey in the Humber River, which empties into Lake Ontario at Toronto. The lamprey is very abunlant in Lake Ontario and is a serious menace to our food fishes in that it attaches itself to these fishes by a sucking disc surrounding its mouth. The disc is lined with chitinour teeth by means of which it rasps the body of its prey, and sucks the blood anl body fluids.

Fisheries Revenue Slumps 30 Percent

Every province feels depression but British Columbia hardest hit—A review of various fisheries for 1921.

Last year was an extremely bad one for the fishing industry. No doubt about it. It is hardly possible, however, that even those in the game could realize how serious the slump really was. The annual report of the Department of Fisheries, Ottawa, for the fiscal year 1921-22 discloses that the marketed value of all our fish was the lowest since 1914 and represented a falling off of $14,000,000 from the previous year, or thirty percent. There were two contributing causes, first, falling off in the catches of valuable species, such as salmon, lobsters and Atlantic herring and poor market conditions for other prolific varieties.

There is one encouraging feature in connection with this disclosure in the annual fisheries report and that is that it refers to a year we have left behind. People in all branches of the fishing business declare that conditions are slowly improving. In fact in all branches of industry this appears to apply, but for some unaccountable reason the fisheries seem to lag at the rear of the recovering movement. Undoubtedly things are improving, and, as the depratment's report declares, we have reached rock bottom and there is every indication that we are to experience natural progression until in a few years we have a normal business on the scale which made the industry so prosperous during the latter years of the war.

Herewith we reproduce from the department's report its review of our fisheries for the year 1921. It will be noted from the comparative statement of each province's catch with last year that not a single province escaped the flow. British Columbia was hit the hardest. Her salmon pack was little more than fifty percent of the previous year and the total marketed value of all her fish dropped $8,365,000. Nova Scotia's revenue from the industry declined three millions, and New Brunswick's about three-quarters of a million. Other provinces lost proportionately.

Review of Fisheries for 1921

The fishing industry was carried on during the year 1921 under the most trying conditions. The marketing of fish and fish products was found to be difficult, and prices fell to a figure which made it unprofitable for fishermen, in some districts of the Atlantic coast especially, to carry on. Production was thus much less than it otherwise would have been. It is not very surprising, therefore, to find that the marketed value of all fish and fish products for the year under review amounted to $34,931,935. This total, which is the lowest since 1914, is over $14,000,000 less than for 1920, and $25,000,000 less than the peak value which was reached in the year 1918.

On the face of it this big decrease is a very serious one, but there are already abundant signs of improved marketing conditions for the product of the 1922 season, and it may be confidently assumed that the annual value of our fisheries has not only touched rock bottom, but will begin to rise steadily if more slowly than under the artificial conditions brought about by the late war. The total value for 1921 and that for 1920 was contributed to by the various provinces as follows:—

Nova Scotia	$ 9,778,623	$12,742,659
New Brunswick	3,690,726	4,423,745
Prince Edward Island	924,529	1,708,723
Quebec	1,815,284	2,592,382
Ontario	3,065,042	3,336,412
Manitoba	1,023,187	1,249,607
Saskatchewan	243,018	296,472
Alberta	408,868	529,078
British Columbia	13,953,670	22,329,161
Yukon	28,988	33,100
	$34,931,935	$49,241,339

Atlantic Fisheries

Cod, Hake, Haddock, and Pollock.—Owing to low prices and poor marketing conditions the aggregate catch of the four kinds named for 1921 was 2,509,928 cwts., against 2,707,059 cwts. for the preceding year. Hake, pollock and haddock, chiefly the last named, were accountable for the decrease. The landings of the Lunenburg Bank fishing fleet were rather less than in the preceding year. This was due to the fact that fewer vessels were engaged in the fishery. The average catch per vessel was actually greater than for many years.

Mackerel, Herring and Sardines.—Mackerel were generally more abundant than in the preceding year. The quantity landed in Nova Scotia, New Brunswick and Prince Edward Island, in the aggregate was approximately 18,000 cwts. greater, but this increase was almost neutralized by a decrease of 15,000 cwts. in the Quebec catch, mainly at the Magdalen islands.

Low prices and a poor demand for smoked round herring adversely affected the herring fishery. The total catch amounted to 637,414 cwts., against 935,122 cwts. for the preceding year. All the provinces shared in the decrease.

The sardine catch of the Bay of Fundy was the smallest for many years. As a result of the still disorganized state of the canned sardine trade the packers had difficulty in marketing the packs of the three preceding years. Consequently, prices were low and fishermen found it unremunerative to operate their weirs.

Other Sea Fish.—The halibut catch was greater by 7,600 cwts., while the catch of swordfish was more than double that for the preceding year. Albacore, flounders and tomcod were taken in about the average quantities.

Shell-fish.—The lobster fishery suffered considerably from inactivity as a result of the low prices, which caused a number a number of fishermen to cease operating. While the total catch was 6,360 cwts. less than that for the preceding year, some of the provinces actually produced a greater quantity. There was a decrease of 19,000 cwts. in Prince Edward Island, and of 8,000 cwts. in Quebec. Nova Scotia on the other hand produced 17,000 cwts. more, while New Brunswick also had an increase

of over 4,000 cwts. It should be noted, however, in connection with the Nova Scotia increase that had it not been for the special fishery season allowed at the end of 1921, which produced 33,000 cwts., there would have been a decrease of 16,000 cwts. as compared with the regular fishing season in the preceding year.

There was a gratifying increase in the catch of oysters. All the provinces show greater catches, New Brunswick especially so. The increase amounted to 4,000 barrels.

Clams also were taken in larger numbers in all the provinces except Nova Scotia. The total increase amounted to 2,777 barrels.

The catch of scallops was approximately 1,500 barrels greater than in the preceding year.

River Spawning Fish. —The salmon fishery, which had been showing diminished catches for some years, suddenly produced an increase of 14,000 cwts. over the catch of 1920. That year, however, was much below an average one.

The smelt fishery was successfully prosecuted, and resulted in an increase of 25,000 cwts. as compared with the preceding year's catch.

The fishery for alewives or gaspereaux gave very meagre results. The catch was not more than about one-third of that of the preceding year. In the Harbour of St. John, New Brunswick, where the bulk of the total catch is usually taken, the fishery was almost a failure.

Inland Fisheries

The lakes of the Prairie Provinces produced in the aggregate a somewhat greater quantity compared with the production in the preceding year. There was a decrease in value, however, of $400,084. Notwithstanding a smaller number of men engaged in fishing, the catch in Alberta for commercial purposes showed a slight increase. An establishment for canning, smoking and salting fish was erected on the shore of lake Athabasca in the summer of 1921, and put in operation daily during the last half of September.

Fewer fishermen operated in Saskatchewan owing to the depressed condition of the markets in the first half of the year. The commercial catch, consequently, was slightly less.

There was an increased catch in the lakes of Manitoba.

The St. John River district in New Brunswick produced a slightly greater catch with a considerably greater value.

Pacific Fisheries

Salmon. —The salmon pack of British Columbia amounted to 602,657 cases of all kinds. This is a little more than half the number of cases packed in the preceding year. The greatly decreased pack was due in a large measure to the lack of demand for the cheaper grades, such as pinks and chums, as a result of the oversupply in recent years. Unfortunately, however, the pack of the more valuable sockeye was a very poor one. Not only was this the case in the Fraser River district, where dwindling runs of this variety are now noted without surprise, but it was equally so in Naas, Skeena, Rivers Inlet, and outlying districts of the north. Spring salmon were fairly abundant in some of the northern districts, and the pack of this variety was greater. It was much less, however, in the Fraser River and Vancouver Island districts.

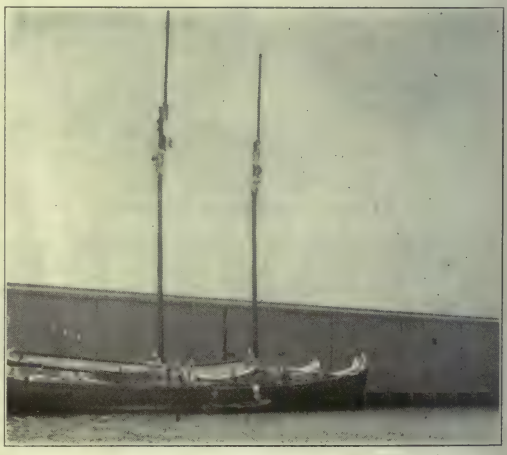
Halibut. —This fishery resulted in the landing of 325,868 cwts., against 238,770 cwts. for the year 1920. Nearly two-thirds of the total landings in British Columbia were made by United States vessels, mainly at Prince Rupert, where catches were disposed of and the vessels outfitted before returning to the fishnig grounds.

Herring. —These fish were as abundant as ever on the west and east coasts of Vancouver island. The quantity landed annually varies as a rule with the condition of the markets, and the demand. The catch for 1921 was somewhat less than that for the preceding year owing to the temporary slackness in the demand for dry salted herring from the Orient. The demand for herring cured in the Scotch style was better in the eastern part of the United States. Efforts were made to pack a much larger quantity. A sufficient quantity of fish of the right quality was not secured, however, and the pack, although double that for the preceding year, fell far short of what was *prepared* for. Several companies operated purse-seines for herring at places within thiryt miles of Prince Rupert during the season, and a very considerable quantity was taken. The fish were mainly disposed of for bait.

Pilchards. —These are very abundant on the west coast of Vancouver island. They are mostly canned. The pack of 1921 was only 16,091 cases, whereas the one for the preceding year amounted to 91,929 cases. The smaller pack was due altogether to poor market conditions. New outlets have been recently found for the canned product, however, and it is anticipated that the pack will increase in volume annually.

Other Sea Fish. —In addition to the foregoing, which constitute the chief kinds landed in British Columbia, such varieties as cod, flatfish, smelts, sturgeon, oysters, clams, etc., were landed in the usual quantities. These taken together contribute a considerable part to the total annual value.

Whales. —The market conditions were not such as to warrant the operation of the British Columbia whaling stations during 1921. Consequently there were no whales reported as having been landed.



The "Giant King"

The schooner 'Giant King' docked at San Juan Insular dock unloading fishstuffs for Mendez & Company, of San Juan, Porto Rico. This firm is a big importer of Canadian fish and is well known by our exporting houses in the east. It is said that fully sixty percent of the fish entering the Porto Rico market is handled by this progressive and enterprising firm.

Round Up School of Sperm Whales

Newfoundland fishermen, in small motor boats, have thrilling experience with leviathans but come off victors.

BY FRANCIS KELLY

An event of more than passing interest to the people of Newfoundland was the recent landing of sperm whales at Keels, Newfoundland.

In the early part of August, a boat leaving Keels for the purpose of hauling a cod trap encountered a few miles off land about seventy large fish which the men thought to be pot heads or to use its scientific name, Globicephala Melas, which fish have a habit of schooling around the fishing grounds during July and August and when attacked by the fishermen are easily driven to land and are quite profitable for oil.

A few boats, seven or eight in all, attacked these fish in pot head hunter fashion and decided to drive them to land. This was accomplished with surprising ease. The fish having headed for land proceeded shorewards like a flock of sheep. The motor boats divided in two rows, three in a line, while one with a powerful motor kept continually blowing off exhaust which, having a sound like that of a very large gun, served the purpose of scaring the fish and keeping them in line.

The men tell me that they often ran the boats upon the tails and the backs of whales and not once did they show the least resistance.

Passing over the harbour shoals they became uneasy on seeing the white ground but they still kept on for the land. The cliffs around the harbour of Keels are very high and square and when the whales saw that they were being entrapped they put up a terrible fight.

Having reached the land the men set to killing or rather trying to kill them and if ever an animal had nine lives then I think these mammals can claim that distinction. Great hawsers and steel cables were made fast to the whales - which were now sending up a torrent of sea like a fearful storm, only to be broken like sewing cotton. It was a thrilling sight to see twenty or thirty boats out among those great fish, sea foaming in the air, the waters red with blood and at each crash of the great tail of a fish one would think that the whole of the settlement had tumbled down.

Hatchets,knives guns and every instrument known to a fisherman were used in an effort to kill the monsters. Large posts were driven into the backs and into the heads but to no purpose. Every kind of a bullet was used and one man informs the writer that he fired at least forty-eight bullets of high calibre into the head of one.

The whales evidently became tired of such treatment and commenced swimming with great fury, many of them heading for the square cliffs dashing themselves to death. In all thirty were killed.

The great wonder is that some one wasn't killed as the men inform me that they were often on the backs of the whales. One small boat received a blow which smashed it in pieces. One man received a cut hand which was the only accident recorded. The great tails of the monsters flourishing in the air swept men into the water many were to be seen upon the backs of whales shopping with axes while spectators thronged every available hill.

The service of a man who had spent ten years of his life as foreman at a whale factory were procured and he broke the news that the monsters were sperm whales and were extremely valuable.

Many of the creatures had escaped taking with them signs of battle in the form of great sticks into them. Where these wounded fish will wind up no one can say.

The writer visited Keels and saw the men at work. Wells had been made in the heads of the whales and great quantities at pure oil were being dipped. At times barrels with holes board in the bottom were being sunk and as they filled the man kept dipping. From one puncheon to four puncheons were taken from each head. Unfortunnately the whale factories were all closed and this goes to show that there is something lacking in the way of government encouragement. Had proper steps taken by the authorities the men at Keels would have reaped a valuable harvest. They did well as it was and they certainly deserve it for their fearless courage in attaching the monsters and hanging on to them even after they found out what they were up against.

[Ed. Note: Authorities on whales declare that the sperm whale is the most valuable of all the species and is said to be valued at $2,000 when all its commercial products are used. The mode of capture described above is unique and thrilling. The usual method is by harpooning and they are attached singly. These Newfoundlanders certainly showed courage. Their experience reads like some of Swift's imaginative writings.]

HOW TURTLES ARE CAUGHT

Green sea turtles, the raw material for soup, are caught in the Gulf of Lower California, where they abound, by stretching strong rope nets of 19 mesh across the mouths of small lagoons just as the tide starts to go out. The turtles drift in with the tide and as it ebbs they are entangled in the nets. From the nets small fishing vessels carry them to a larger, specially constructed vessel lying further out at sea, where the turtles are placed on their backs to lie helpless until they reach the cannery. Here they are placed in shollow pens that keep them fresh until needed.

One of the principal canneries slaughters about two tons every day. The size and weight of the turtles is so great, that overhead conveyors, inclined runways, and similar equipment is necessary for handling the carcases.

Turtles are extremely difficult to kill not so much because of their protective shell as because of their extreme tenacity of life. Incidents have been reported where a turtle's head that had been severed from the body for nearly 11 hours closed its jaws upon a man's hand. The explanation is thought to be that practically all the turtles movements are so called "reflex actions" in which no higher nerve centres are involved. In consequence individual muscles sometimes continue to function long after life appears to be extinct in the body as a whole.

News Notes from Far and Near

Landings at U. S. Ports

During the month of August 14,115,293 pounds of fish were landed at Boston, Gloucester and Portland, valued at $487,425, of which 433,877 pounds were salted, valued $17,030.

The total landings at Gloucester up to the end of August amounted to 35,916,590 pounds, an increase of nearly two millions and a half over the landings of the corresponding period of 1921.

Fifteen Fishermen Drowned

Fifteen members of the crew of the French fishing vessel Pierre Bernardo of St. Malo are believed to have been lost when the vessel sank off the Newfoundland coast early in September. The crew of twenty six took to the dories as the vessel was sinking. Two of the men rowed fifty miles to shore, nine were picked up by a British steamer. The scene of the disaster was searched but the other fifteen could not be found.

To Commercialize Dogfish

Another attempt is to be made at Prince Rupert B. C., to commercialize the dogfish, which is abundant on the Pacific Coast. A boat is now being outfitted for trawling off the banks of Stevens and Dundas islands. A fishing station is to be established at Stevens Island, where scows will be kept on which the fish will be dumped and towed to a fertilizing plant. The marketable fish will be sold and the dogfish and other refuse handled at the reduction plant.

There is a good market for dogfish oil and fertilizer if it can be sold at low price, and it is hoped that new methods will make the venture profitable.

No Scotch Cure Put Up

It is reported that the Labrador herring fishery for the Scotch method has been practically a failure. Herring were plentiful there during the last half of August but had passed along the coast by the time the season had opened for Scotch curing.

Foreign Trawlers do Poorly

Recently two Icelandic trawlers, the Moroflur and the Skallagrimur, arrived on the "banks" prosecuting the fishery the past seven or eight weeks. They were in company with French steam trawlers most of the time and report that all this steam fleet have done poorly during September and August, although some of the French reported good catches early in the season.

The "Skallagrimur" had on board 1500 quintals and the "Moroflur" 2000 quintals of codfish.

Hits Nova Scotia Hard

The Nova Scotia fishermen, particularly those in mackereling, are hard hit by the new United States tariff, which went into effect at midnight Thursday and which includes heavy duties on fish imported into American ports from Canada. As a result of this tariff the fishermen will, starting today receive five cents a piece less for each mackerel, and this is a big drop.

The new duties on fish are very high, and as usual it hits right at the Nova Scotia fishermen, who depend on the American markets for good prices for their mackerel. Hundreds of thousand of mackerel are shipped into Boston from Nova Scotia ports every year.—Halifax Chronicle.

Areoplane Fishermen

Johnny Green, aviator, and David W. Budd of St. Petersburg, Fla., were flying over the Gulf in a hydro-areoplane when Mr. Budd hooked and "landed" an 80-pound tarpon. It is said to be the first time such a feat has been accomplished.

Fishermen Strike

Word came Port Arthur, Ont., on October 2 that fishermen at Rossport who have been selling their catch to the Nipigon Fish Company, have gone on strike and tied up their tugs, since the the announcement that they would be paid seven cents per pound for their fish, with heads off, instead of eight cents straight, as formerly.

Areoplanes to "spot" Herring

Announcement that the Scotish Fisheries Board, with the co-operation of the Air Ministry, is to carry out a series of herring "spotting" experiments off the East Coast of Scotland has created some mild excitement among fishermen and in fish trade circles generally.

Shrimp's Ears in Knees

Are shrimps insects? The question is often asked by those who see these active little creatures alive for the first time.

Insects have six legs, but the shrimp has no fewer than twenty-four. He is a crustacean—first cousin of the crab, the lobster, and the crayfish.

Many of the "shrimps" that one sees in shops are prawns. You can tell one from the other by looking at the head. The prawn has a long sharp-pointed horn edged with teeth like those of a saw. The shrimp's horn is small and smooth. Prawns turn pink when they are boiled but shrimps become brown in color.

The eyes of a shrimp are easy to see since they stand out on stalks, but you might search for some time if you wished to discover his ears, for he keeps them in a very odd place.

His ears are in his knees. At the first joint of his pair of legs, which by the way, are not used for walking, is a little bag which contains a minute drop of water, and this water-filled bag acts as an ear-drum.

School of Sea Monsters

Sea monsters which are reported to be from forty to sixty feet long, have attacked boats engaged in fishing out of British Harbor, Trinity Bay, Newfoundland, and fishermen are afraid to go the grounds. A large school of these monsters, of which no description has been received, appeared off the coast a few days ago, and are still in the bay. An organized expedition will be sent from the settlements off which the school lies in an effort to capture or disperse this strange menace to the prosecution of the fishery. Several boats which went out recently narrowly escaped being swamped by these huge denizens of the deep. The appearance of the school has been reported to the department of marine and fisheries by the telegraph operator at British Harbor.

Salmon Pack Better

According to the latest available returns the B. C. salmon fishing returns this season will be much better than anticipated. Up to September, 16, 5,077,584 pounds of salmon had been packed in 105,783 cases, each case containing 96 half-pound tins of salmon. Although sockeye was the principal catch, 43,344 cases being packed, 37,830 cases of pinks or hump-backs went to swell the pack. There are three varieties of springs, red, pink and white, and they filled 11,389,-958 and 4,016 cases respectively. Cohoes supplied the filling for 6,202 cases, blue backs 622, and chums 1,422.

Fishermen Damaged by Fire

Damage variously estimated above $100,000 was caused at Liverpool, N. S., October 4, by a fire which destroyed the plant of Thompson Brothers, including a sawmill, foundry, machine shop, two warehouse, one three-story structure and several other buildings. A quantity of lumber on the adjoining property of McLearn, Limited, was destroyed, the upper rigging of the schooner Harold Corkum, at McLearn's wharf badly damaged, the schooner Lillian Hodges blistered and the box factory of Millard Brothers and the Marine Hospital scarred. Three Canadian National Railway box cars were burned.

Fires Shot Across Bow

Lobstermen on the North shore tell an exicting incident which occurred recently near the mouth of the Miramichi River. The Canadian government fisheries protection cruiser Arleux commanded by Capt. William Milne, is engaged vigilantly guarding the lobster fishery . At one point where there is a close season fishermen neglected to take up their traps, and after being warned about 100 traps were destroyed. One schooner attempted to defy the cruiser and get away with lobsters illegally caught and in illegal possession, but when Captain Milne fired a shot across the bow of the fisherman, the latter decided to obey the order and comply with the law hereafter.—Yarmouth Herald.

Chilled Salmon Exported

Dr. Grenfell, the well-known medical missionary, has arrived in the old country from Labrador. In an interview he said that last year they began a new industry in Labrador and Northern Newfoundland—the chilling of salmon, of which they sent a million pounds weight to England. It is not frozen. The fish are placed in water, and ice is laid about the vessels, but the salmon reach the table without having bee actually frozen. Dr. Grenfell thinks this industry will absorb all their salmon in time. The great need of these countries for all purposes is better communications with the outside world both by road and rail and sea.

Bella Coola Submerged

Bella Coola, a town of 175 inhabitants on the north coast of British Columbia, was completely submerged in a flood from the Bella Coola river September 29 and was under a blanket of four to six feet of mud and water, according to officers of the steamer Camosun. Many of the residents are homeless and it is believed other towns along the river suffered from flood conditions following a heavy downpour of rain Friday night and Saturday morning.

Say Corby!

(Canadian Press)

New York, Oct. 4.—A fish that whistled and blew itself up when tickled is to be presented to the New York Aquarium. It was scooped out of the water at Bluepoint, N. Y. by Clarence Seamen of Patchogue. It was about four inches long, had one eye, a head like an owl and three tails which it waggled all at once, and its body was covered with horns. Seaman said it got so angry when he pulled it out of the water it blew itself up, whistled three times and expired.

Whale Tore Hole In Vessel

Capt. Sam Paresi and five members of the crew of the Italian boat 872-C limped into Gloucester one evening about the middle of September with a gaping hole in the side of their boat and the tale of a thrilling experience with a whale.

The accident happened about 8 o'clock. The craft had made a set and was about ready to bail the fish into the boat when the whale, chasing the fish, butted headlong into the boat striking amidships on the port side. The blow sent the boat reeling over and nearly turned the craft buttom up.

Paresi and the other fisherman, standing near the port rail, were pitched overboard. Paresi struck on the back of the whale. He grabbed the gunwhale of the seine boat and climbed to safety. The other man did likewise.

The whale tore a hole about three feet square amidships just below the water line. The blow apparently stunned or killed him, for the fishermen saw the whale turn over and sink from sight.

The craft was seining for mackerel with others of the fleet and were on Salvages about eight miles from Thacher's when the mishap occurred. The sea was as smooth as a lake and these ideal conditions enabled the other boats to save the punctured craft. They got lines about her and started for port.

1921 Poor Year In B. C.

Following is a comparative statement of the quantity and value of the chief commercial fishes of British Columbia 1920 and 1921:

Total Value Marketed	1920	1921
Salmon	$15,129,348	$8,591,724
Halibut	4,104,869	3,636,076
Herring	1,228,131	963,407
Cod	322,737	232,638
Black Cod	181,202	142,558
Pilchards	540,265	101,945
Crabs	90,898	82,403
Clams & Quahangs	33,363,	41,390
Oysters	73,664	42,272

Of the total value of fisheries production for 1921; salmon and halibut together contributed 87 per cent.

Value of B. C. Fisheries. 1910 — 1921

1910	$9,163,235
1911	13,677,125
1912	14,455,488
1913	13,891,398
1914	11,515,086
1915	14,538,370
1917	21,518,595
1918	27,282,223
1919	25,301,607
1920	22,329,161
1921	13,953,450

Cod Liver Oil Rich in Vitamines

Newfoundland aroused over possibility of increased trade as result of discovery made by Old Country experts.

Some time ago we told our readers of the visit to Newfoundland of Dr. S. S. Zilva of the Lister Institute, London, a medical authority of world-wide eminence, along with Mr. M Graham, of the British Board of Fisheries, also a conspicuous figure in his line of work, for the purpose of determining the food and medicinal values of cod liver oil. These gentlemen have completed their observations in the sister dominion having secured samples of oil from fish of various ages, from fish partaking of different foods, and from fish in various physical conditions. They now return to the Old Country to study more closely the specimens they have taken and this country will watch with interest equal to that of Newfoundland what the ultimate verdict of science will be. We are interested in securing a market for our present and potential resources of fish oil and if science finds in cod liver oil those properties which we are led to beleive they will find, then the discoveries will produce an additional source of wealth from our fisheries, and one of no mean economic importance.

"The liver of the codfish is recognized as the treasure-house of the vitamine", says the Trade Review of Newfoundland in discussing Dr. Zilva's work. In a later issue, reporting an address delivered by Dr. Zilva in the Grenfell Institute, it says that "he gave it as his unqualified opinion that he had proved that cod liver oil contained two hundred times more vitamines than butter," and making deductions from this declaration, adds: "The finest quality of butter may be purchased at about fifty cents per pound. There are about nine pounds of cod liver oil to the gallon so that an equal value cod liver oil should be worth $4.50 per gallon, but taking Dr. Zilva's valuation cod liver oil should be worth nine hundred dollars per gallon."

As Long as They're There

In talking of vitamines we feel ourselves in very much the same position as when we attempt to present Enstein's theory of relativity. Frequently we hear commercial and travelling men on the train talk about this abstruse principle of the famous German and for the sake of peace and happiness and to avoid a desecration of science we refrain from arguing pro, con or in the middle. Same with vitamines. Judging by newspaper advertising you find them everywhere. But just what are they and what are they supposed to do? Scientists tell us a vitamine has never been isolated. It puzzles us to understand how they know there is such a thing. But this is all beside the question. If the vitamine-value of cod liver oil is found to be two hundred times that of butter and if in the years to come the world is going to buy food and medicine on the vitamine scale, well we're interested in our vitamine resources and, apparently, we will have a depositary of wealth that will surpass all our other natural products combined. Gold mines would be jokes.

This may appear a bit visionary but it's an effective way of demonstrating the possibilities disclosed by Dr. Zilva's findings. Some day we shall be saying to our neighbour: "Come have a vitamine on me," and then you will proceed to pour a nice slippery finger or two of cod liver oil. Yoy, Yoy! What prospects.

After having relieved ourselves of this doubtful bit of humour, let us get back to Dr. Zilva's work in connection with the matter, and the manner in which he selected samples to ascertain where, when and under what conditions the highest vitamine-value oil could be procured. The following is also from the Trade Review.

Gave Him Every Help

On arrival in Newfoundland Dr. Zilva was met by Alan Goodridge, the obliging deputy minister of Marine and Fisheries who together with members of the Board of Trade placed every convenience at his disposal. The government inspectors were prepared to follow his instructions and to manufacture the oil in a model factory.

Dr. Zilva expressed his appreciation, and also stated that there was no question but that Newfoundland oil was manufactured by the most approved methods, and showed results of merit far ahead of many others, but his real research was not in the manufacture but to get the actual merit and quality of the livers.

The liver of the codfish is recognized as the treasure house of the vitamine.

These vitamines are not found in any appreciable quantity in other parts of the fish with the exception of the roe and milt of the female and male fish. This proves first that the oil produced in the spawning season cannot be equal in merit to the oil produced after the fish have recuperated.

Interesting Experiments

Now comes the experiments to find out whether the livers of the male fish contains more vitamines than the female fish? Whether a young fish contains more vitamines than an old or middle aged fish? Whether the food on which the fish feeds has some special merit to produce vitamines?

The selection of the fish was the special work of Mr. Graham, as in his years of experience with the fishery Board of England, his work was connected with the life and habits of all fish frequenting the English Coast.

In the past there has been little or no discrimination made in selecting the livers when making the oil. On the Newfoundland Coast the fishery is almost wholly composed of cod fish, but on the Nova Scotian Coast and also in Finmarken, Norway, there are all kinds of the (Gradus) species, such as haddock, hake, pollack, ling and cusk which have livers, but the oil of which does not compare in quality for color, taste or smell with that produced from the pure livers of codfish.

Dr. Zilva's first request is to place 100 or more codfish on a table.

Mr. Graham then makes the selection between the male and female fish. From experience he can determine which is an old or young fish from the rings on the scales, as the small fish are not always the young-

est. He can tell by measurement whether a fish is 4, 8 or 12 years old.

The livers are then separated and a boiling made from each.

Has Exact Knowledge

Dr. Zilva then secures sufficient oil for his experiments, and has the exact knowledge that this oil was manufactured at a certain harbor in Newfoundland on a given date from the livers of pure healthy male or female codfish of 4, 8 or 12 years old, with any special remarks as to the condition of the fish, which he may think proper.

This oil has been rendered out by heat and will be utilized in experiments in many ways. He may find that the livers of all these fish are alike, but it is possible that he may not find them all alike. This will explain to our readers in a small way the work now in progress to determine the actual merit of certain oils, and may lead to many changes in its manufacture in the future.

The food that the fish feeds on must have a great deal to do with the production of the vitamine.

Is it during the caplin, the herring or the spuid season that most vitamines are in the oil, or does it come from the kelp or sea anemonies that the fish feed on? And it may be found that the fish from certain districts have very much more vitamines than others, and it would simplify matters very much if it was found that fish caught in southern latitudes are better than that caught far north, as our friends abroad should know that our coast line extends for over one thousand miles.

Investigation Will Help

These are questions that this investigation will help to solve, but it certainly shows the need of a thorough up to date scientific department for the study of our fish in all its many intricacies, and shows that we know little or nothing about this today.

The visit of Dr. Zilva and Mr. Graham to Newfoundland has started the leaders in all progressive work, and great hopes are expressed, as there was no secret that both these scientists were amazed at the wonderful and unique conditions in Newfoundland, which adapt themselves to fishery life on the coast. We must now wait with patience for the practical result of these investigations before any definite facts can be known of the several hundred samples that he has taken with him to his laboratories in London.

NO EXTENDED LOBSTER SEASON

No additional lobster fishing season wil be granted in Western Nova Scotia this year. In a statement just issued, the Department of Marine and Fisheries gives reasons for the refusal of request that a fall season for lobster fishing be granted on the South western coast of Nova Scotia, which extends from St. Mary's Bay, Digby County, to Cole Harbor, Halifax County. The regular lobster fishing season for the above section is from the first of March to the 31st of May, but last year an additional season was granted from November 1 to 15th of December. The ill-effects of this additional season are manifested, says the statement. During the regular season of last year 110,277 cwts. were taken and during the additional fall season 32,733 cwts. The result was that during the regular season this year the catch was only 62,-100 cwts., while in practically every other district around the coasts, it is said, there have been good increases.

Another reason for the refusal, according to the statement, is that the lobster fishing and canning industries are carried on all along the coasts of the Maritime Provinces and Quebec and an extension of the season in one district affects the business situation in all the others.

One of the unanimous recommendations at the conference of lobster fishermen and packers at Halifax in 1918 was that there should be no extensions of the lobster fishing season in future, the statement says.

It is said that the campaign of education which the Department of Fisheries has been carrying on with the object of protecting the lobster fisheries and bringing them up to the highest possible point, is bearing fruit on almost all portions of the coast.

REFRIGERATION MEN TO MEET

The Thirteenth Annual Convention and Exhibition of the National Association of Practical Refrigerating Engineers is to be held at the Planters Hotel, St. Louis, Missouri, this coming November 1st, 2nd, 3rd and 4th. The association expects a registration of at least five hundred members of its various subordinate chapters located in all parts of the United States, so this presents an inducement and the opportunity for every refrigeration and ice-making plant owner to have his manager, engineer or someone else in contact with others similarly occupied and interested.

In this way much can be learned of what is going on in other plants in other cities and knowledge obtained and valuable to employees and employers. Through coming in contact with others, the knowledge of their experiences would be taken up, the circle of their acquaintances extended and friendships formed that would be enjoyable and of benefit.

It should be kept firmly in mind that the first object of the Association is to further the education and worth of its members in the art and practices of refrigeration engineering. The principal means toward this end is the holding of sessions for the reading and discussion of appropriate papers and for craft fellowship. Each member subscribes to the belief of community of interests of employer and employee, and the Association is never used for the furtherance of strikes or anything that will interfere with perfectly harmonious co-operation between them.

The Association at no time takes partisan issue with rival interests in the refrigeration and ice-making business, nor is it used for political or religious purposes. Its meetings are devoted to the business of the Association, and at all times preference is given to topics relating to the instruction and education of its members.

Any white employee of a refrigeration or ice-making plant who is an American citizen and who is of good moral character is eligible for membership in this association and invited to attend and register at the of new things and new methods that should be useful coming convention.

How Fish Shrinks in Dying and Curing

Valuable information compiled as to losses in different processes — Boneless cod loses seventy-four percent.

All those who have attempted to bring into relation the quatities of fish landed from the fishing vessels with the quantities exported and the quantities retained for home consumption have been met with the difficulty of determining what weight of fresh goes to a certain weight of cured. There are the statistics of the fish landed fresh, on the one hand, and the figures for the weight exported of dry, pickled, smoked, &c., but the ratios between the one and the other are not supplied. Recently, however, extensive and important information of the kind referred to has been furnished for the American fisheries, and also for those of Norway. A statement compiled by Mr. Lewis Radcliffe, Assistant in Charge of the Division of Fishery Industries under the Fiheries Bureau of the United States, says many factors enter into the subject, and those determined for one species of fish may not be applicable to another species. With regard to the loss of weight in dressing fresh fish for the market, it is said the weight is diminished by from 15 to 20 per cent., and even more. The average shrinkage in gutting cod, haddock, "&c.," is put at 15 per cent. The loss of weight in dressing cod in one case mentioned was: Whole weight of fish, 1,200 pounds; dressed by removal of head, viscera and backbone, 720 pounds; loss 40 per cent.

Shrinkage in Drying

The following is a summary of the information given on drying—mostly from Stevenson's "Preservation of Fishery Products for Food." The loss of weight in dressing and curing cod and other ground fish for the domestic (American) market ranges from 50 to 65%, according to the species, the season, and the extent of the salting and drying. The loss is greatest in the case of haddock and cod, and least in torsk)"cusk") and hake. Generally, large fish decrease more than small ones. From a number of records in different reasons, the following summary is obtained, showing the average quantity of fresh required to make a gross quintal ("114 pounds") of dried fish suited for the New England market:—

	From the Round Lbs	From the knife Lbs	From the butt Lbs
Haddock	299	206	133
Cod	288	193	131
Pollock (Coaldfish)	280	184	130
Hake	258	190	131
Cusk (Torsk)	246	178	132

Fresh split cod ready for curing contains about 80% of water and 1¼% of salt. A large percentage of water is withdrawn by salting, some by drying, and a much smaller quantiy by compression, the latter process also removing a small quantity of the salt in the form of pickle. The resulting product when prepared for the domestic trade contains about 51% of water and 19½% of salt. The stockfish of Norway contains about 17% of water and 1½%of salt. One hundred pounds of cod, as they come from the water, will weigh about 66.9 pounds dressed ready for salting, of which about 53 pounds represents water, and 1 lb. represents the weight of salt. The process of curing for the domestic trade adds about 6.2 pounds of salt and removes about 34.1 pounds of water, of which 31.1 pounds are removed by the salting and 3 pounds by the pressing and drying. This results in 38.8 pounds of dry-salted fish, of which 18.9 pounds represents water and 7.2 pounds salt.

Boneless Sacrifices 74 Percent

By continuing the drying process and removing more water the keeping qualities of the fish are improved; but since it decreases the quality of the flavour as well as the weight of the fish, and adds to the cost of curring it is not desirable, unless the fish are to be shipped to a warm climate and held there for a long time. To make a quintal of domestic-cured codfish requires 193 pounds of split fish, or 288 pounds of round fish, whereas to make an equal quantity of fish suitable for export to Brazil requires about 350 pounds split, and for 114 pounds of Norway stockfish about 474 pounds of split fish, or 708 pounds of round fish are required. The loss in drying on the flakes is stated thus: Fish weighed 515 pounds when put out and 468 pounds when taken in; loss, 47 pounds—4% of gross weight, or 9% of salted weight. The "round" weight of the above lot of fish was 1,200 pounds; dressed, 720 pounds, and salted 515 pounds. With regard to the loss in preparing "absolutely boneless" fish, the following is given: Fish weighed 468 pounds before removal of skins, bones, trimmings, &c., and 311 pounds afterwards—loss, 157 pounds, or 13% of gross weight, or 33.3% of the dried weight. The total loss in weight from the catch to the finished product is about 74%.

To Ascertain Costs

The following conversion factors are cited: To convert gutted fish, such as cod and haddock, whose average shrinkage in gutting is about 15%, into weight of round fish, multiply weight of gutted fish by factor 1.176. To convert weight of salted cod and haddock, ex vessel, into fresh gutted fish, for large cod multiply weight of salt fish by 1.90 for market cod multiply by 1.94, and for "snapper" cod multiply by 1.98; for large haddocks multiply weight of salt fish by 2.06 and "scrod" haddock by 2.10. It is said the following conversion factors are understood to be employed in Canada. With cod, 200 lbs, fresh produces 1 cwt. of smoked, or 1 cwt. of green salted; 300 lbs. fresh produces 1 cwt. of dried. With haddock, 200 lbs. of fresh produces 1 cwt of smoked finnans, and 300 lbs. produces 1 cwt. of dried; so also 300 lbs. of fresh pollock (coalfish) or hake produces 1 cwt. dried; 300 lbs. produces 1 cwt. of fillets. With regard to salmon, 125 lbs. fresh produces 1 cwt. of dry dry salted; 150 lbs. produces 1 cwt. of pickled or 1 cwt. mild cured, and 170 lbs. produces 1 cwt. smoked. With regard to herring, 200 lbs. fresh produces 1 cwt. of smoked; 300 lbs. produces one barrel of pickled, and 170 lbs. produces 1 cwt. of dry salted. The same applies to pickled and smoked mackerel.

Norwegian Figures Differ

The Norwegian figures for the representation of fresh and cured are not quite on the same style, since a measure of the fresh raw material (vizt litres) is taken for the preparation of a certain weight of the final product. The following shows the number of litres of the raw material required to produce 100 kilogrammes (220.46 lbs.) of the prepared product:—

	Dry salted	Dry split Pickled	Stockfish Fish (round)		Stockfish (split)
Cod	160	150	270	430	485
Coalfish	150	140	250	400	435
Haddock	170	160	300	490	560
Ling	150	140	240	435	455
Torsk	155	145	250	400	435

The litre, which is the French measure of capacity, contains one kilogramme of water at 4°C., and 4½ litres are roughly equal to a gallon (one litre equal to 0 220097 British imperial gallons. Another table gives the number of litres of fresh raw material required to produce one barrel of the cured product, as follows: Salted fat herrings (100 kilogrammes), 125 litres; salted large or great herrings (110 kilos), 137.5 litres; salted spring herrings (110 kilos), 143.6 litres; salted small herrings (100 kilos), 133 litres; salted split herrings (100 kilos), 300 litres; salted roes (120 kilos), 170 litres (dry-salted); salted roes (120), 150 litres (salted in pickle). The Norwegian figures are official, apparently in connection with subsidies, and they stand in need of further explanation. The tables quoted are given in "Fiskets Gang." Wether the American or Norwegian figures would apply in this country is perhaps doubtful. It would be an advantage if similar conversion factors were made available here, and it should not be difficult to do so.—Fish Trades Gazette, London.

HITCHED SALMON TO TREE

Here's a good fish story and the best part of it is that unlike a good many of fish stories it's absolutely true. Fred McLeod and Bartley Edwards of this town were fishing at Margaree about a week ago, Mr.McLeod with trout takle and Mr. Edwards with salmon tackle. Mr. McLeod was using as bait a common worm and hooked a large fish. He had only 25 yards of line which was not enough to play the fish with. Fortunately the fish took a sulky fit and went to the bottom of the pool, whereupon Mr. McLeod unfastened his line and tied it around a tree then ran about a quarter of a mile to where Mr. Edwards was fishing borrowed his salmon tackle hastened back and taking the line from around the tree tied it to the borrowed line and after the usual battle landed a 10 pound salmon. The most curious part of the story is the fact that the salmon would take worm bait although another such case occurred about the same time at Margaree. It is the first time known that we have heard of anyone tethering a salmon to a tree.—Sydney Post.

AND ADVERTISING IS RESPONSIBLE

A financial authority has given out some figures of the annual business done by the ten largest stores of the world, measured by the total trade in Dollars. The record is for the year 1920. Like all figures of imposing successes, they are intersting:

Marshall Field & Co., Chicago, $65,000,000;
Carson Pirie Scott & Co., Chicago, $50,000,000;
Bon Marche, Paris, $40,000,000; Snellenberg, Philiadelphia, $40,000,000;
Lit Bros., Philadelphia, $33,000,000;
Selfridge, London $30,000,000. Manamaker, New York, $28,000,000; Wanamaker, Philadelphia, $27,000,000;
R. H. Macy & Co., New York; $25,000,000;
Franklin Simon & Co., New York $21,000,000.

Three countries and five cities are represented in this list of leaders. Different policies govern the different stores Some emphasize high quality; some feature popular priced wares.

But all have one thing in common.

And this is the thing that every merchant here, as everywhere, has at his command.

All are consistent, persistent and emphatic advertisers.

FISHERY ORDERS-IN-COUNCIL

Following is a summary of orders-in-council affecting the finishing industry, which have appeared in recent issues of the Canada Gazette:

The regulations governing the inspection of canned fish and shellfish and the operation of canneries, as adopted July 24 last, amended so that hereafter it will not be necessary to attach to cans of fish or shellfish destined for export a sticker bearing the name of the canner and the number of his license.

The special fishery regulations for British Columbia, section 15, is amended so as to provide that no license shall have the number of this license on more than one boat at the same time.

Public notice is given that Wheaton Lake in Charlotte county, N. B. is set apart from all fishing for a period of three years from September 15 for the natural propagation of fish.

The specialy fishery regulations for the Province of New Brunswick are amended to permit of salmon angling in certain rivers and streams according to the conditions of the salmon , decision as to which shall rest with the inspector of fisheries for the locality.

NEWS FROM FUNDY AREA

St. John, N. B.—Summing up the salmon fishing season in the Ray of Fundy and continuous waters, it is believed by may prominent fishermen and wholesalers in the Fundy district, on both New Brunswick and Nova Scotia sides, the 1922 catch equalled in importance the 1921 catch. Some are inclined to believe however, the volume was greater for last year than this year. The general opinion is however, that at least in the matter of value, the salmon catch for this season is about on a par with that of last season.

A new fish curing plant will be established near Digby before the snow flies of present plans nature. A number of fishermen are combining to build a small building in which salmon, herring, cod and mackerel will be cured, and salmon, haddock, mackerel and herring, smoked and cured.

Sardines dropped to five dollars a hogshead the middle of September, there being a large run of the little hering in the Bay of Foundy. The price went up somewhat at the factories in Eastport, Lubee, North, West Lubee, Robbinston, Black's Harbor, Grand Manan, later, when the run diminished.

Would Exploit Lobster Industry Again

Certain element endeavoring to secure fall season again—Fishery officers in conference—Opinion on U. S. Tariff.

(From Our Own Coresspondent)

Your scribe had the privilege of attending a number of the sessions of the third annual instructional conference of fishery officers of the Atlantic Coast, which was held this year at Shediac, New Brunswick, beginning September 20, and was greatly impressed with the importance and success of the gathering.

Four addresses on "Sanitation in Lobster Canneries" were given by Dr. A. P. Knight, Chairman of the Biological Board. These addresses were most timely, as the revised regulation governing the subject had recently been adopted after close investigation by Dr. Knight and his assistants.

The lobster fishing and canning industry of the Maritime provinces is valued at about seven million dollars annually. Efforts to improve the quality of the canned product and to ascertain the best methods to be adopted to avoid discoloration of the contents of the tins have been under investigation by the department for some years, as the annual loss to the dealers and exporters has been heavy. The systematic and persistent experiments and investigations under the leadership of Dr. Knight were taken up some three years ago, and as the result of the adoption of many of his suggestions, a very decided improvement in the quality of the goods has taken place.

The lectures and demonstrations given at the conference on the need of providing the highest possible sanitary equipment of the canneries and methods of packing and processing elicited the keenest interest and debate and will be of undoubted value to the officers in administering the provision of the "Meat & Canned Foods Act" and regulations.

The adresses by Dr. Hunstman on "Conditions in the Water", and "How Typical Food Fishes Live" were unique not only in the method of presentation but also for the manner in which they were illustrated. It was shown that in studying conservation of fish life, propagation or re-stocking of waters to be of value, must be based on a knowledge of water conditions, and of the character and variety of the foods essential to life in the water.

Without doubt the adresses and demonstrations given by Doctors Knight and Hunstman, with the assistance of Andrew Halkett, the naturalist of the department, were the most systematic, important and interesting ever given in Canada for the training of fishery officers.

It was especially noted that the conference was of a most serious mind, and the intentness with which the work was followed gave evidence that the officers fully appreciated the need of the special training being given.

Among the visitors present, who on invitaton of the presiding officer, Chief Inspector Fisher, assisted in the dicussions, were W. F. Tidmarsh, Charlottetown, and R. H. Williams, Halifax, both of whom expressed well considered views on the reciprocal obligations that should be expected on the part of the administrative officers and the trade.

The second part of the program dealth with "Administration" and "Methods of Work", and was confined wholly to discussion and interpretation of the provision of the regulations, and better methods of supervision and protection. The presence of W. A. Found, Assistant Deputy minister, was much appreciated, and his addresses not only to the point but highly illuminating.

Special emphasis was placed both by Mr. Found and Mr. Fisher on the attitude that should be taken by the officers in dealing with the fishermen and others engaged in the industry. Co-operation, encouragement and good judgment were shown to be essential qualifiquations for efficient service. Happily the past few years a much better understanding has been arrived at, as the officials and the trade have come to the conclusion that their interests are identical. The encouragement of the industry and the betterment of the trade must always have first place. The regulation of the fisheries and the enforcement of the laws are matters largely of detail in conservation and protection, but are both of great importance if the industry is to be wisely administered. Without adequate knowledge of actual conditions and the requirements of the industry confusion is bound to result. It was urged, therefore, that it is important that the officers should be in a position to intelligently discuss any problems that might arise, in order that the department may be advised as to the best methods to be adopted in the regulation and administration of the fisheries of the Maritime provinces.

Without doubt the conference was of great value. The interest was noteworthy and called for many complimentary remarks, both by the citizens of Shediac and visitors.

The conference closed with a "Get Together" dinner, given by the officers at their own expense, to which a number of local residents were invited. Among the speakers were Mayor Kelley, W. A. Found, Honourable Fred Magee, Doctor James White, Fred Robichaud and several members of the town council, and also Inspector Calder of Campobello, N. B., and Inspector Gallant, Prince Edward Island.

The ladies of St. Joseph's Providence, who provided and served the dinner, are to be congratulated on their efforts. The toast list was enlivened by the local orchestra and singing by a selected body of the members of the conference, and solos by Officer Chiasson, Magdalen Islands.

The Sister in charge of the Orphanage, the hall of which was used for the sessions of the conference, was greatly pleased with the thoughtfulness if the officers in presenting a generous donation to supply comforts for the orphan children.

The American Tariff on Fish

Without doubt the heaviest blow given the fishing industry for many years was that dealt by the recently adopted American McCumber-Fordney Bill. Already there has been a heavy slump in the business, which has not only been hard on the dealers but has resulted in a decline in the prices to the fishermen, with the consequence that many of them have ceased operations.

In view of the heavy duties imposed by the American Tariff it is not surprising that the privileges granted American fishing vessels in our waters are being closely examined and quite severely criticised. It will be remembered that the only rights to which the American fishermen are entitled by treaty are those under the treaty of 1818, which provides that American fishermen shall be entitled to enter our waters and ports only for the purpose of shelter and repairing damages, of purchasing wood and obtaining water, and for no other purpose whatever.

The additional privileges of purchasing provisions and outfits, shipping crews and trans-shipping catches were provided for in the Treaty of 1888. This treaty, however, did not become effective, as it failed to receive the approval of the United States Senate. Notwithstanding, however, these privileges were continued under the so-called Modus Vivendi licenses on payment of a fee of $1.50 per ton per vessel. And these privileges have been further extended so as to provide that they shall cover all United States fishing vessels, wether sail, steam or auxiliary driven, and the fee reduced to the nominal sum of $1.00 per vessel.

Further, and particularly, under the provisions of the arrangement of 1918, American fishing vessels are permitted to use our ports as bases for operation, and therefore can land their catches either for transhipment to the United States, or for sale to Canadian dealers on payment of the .01c per lb. duty. These privileges are of great value, as they virtually give the American fishing vessels equal rights with Canadian vessels in Canadian ports and waters, thus placing them directly in competition with our own industry. On the other hand Canadian fishing vessels are practically outlaws in American waters and ports, as all the reciprocal privileges intended under the unratified Treaty of 1888, and those given under the arrangement of 1918, have been refused or withdrawn by the United States. As an illustration of the apparent unfairness it is only necessary to note that Canadian fishing vessels cannot enter an American port from the fishing grounds and dispose of their catches, even on payment of duty, but must return to a home port, trans-ship either by rail or trading vessel to the United States before they can market their catches in that country, while, as already intimated, the American vessels can use our ports as bases of operation, and can trans-ship or sell their catches.

Naturally there is a good deal of indignation expressed both by the dealers and the fishermen of the Atlantic Coast, and this indignation is, of course, only to be expected. The fishermen state that under the special privileges of taking on supplies the American fishermen secure large supplies of bait at our ports, and frequently are able to continue operations while our own fishermen are laid up, owing to the fact that the American fishermen have secured all the available bait.

While it would doubtless have been unwise, pending the outcome of the McCumber-Fordney discussions, for our government to take any action withdrawing the valuable special privileges alluded to, there is a strong feeling that our own fishermen and the industry generalley should be protected by serving notice on the American government that we will revert to the Treaty rights of 1818.

Another Attempt to Unwisely Exploit The Lobster Fishery

It will be remembered that last year, notwithstanding the protests of a large body of fishermen of Western Novia Scotia, and of the whole body of packers of that district, a special lobster fishing season of six weeks from November 1., was granted, regardless of the fact that the catch of the regular fishing season was the higest and most renumerative for some years. While the department may have acted wisely so far as Halifax County was concerned, where the needs of the fishermen were acknowledged, there was absolutely no such excuse for the big producing districts of Yarmouth, Shelburne and Digby. This year, owing largely to the heavy toll of fish taken in the more western counties during the special fall season, the catch was considerably below that for the regular season of last year. Many of the fishermen recognize that the annual "crop" due this year was so largely harvested during the special season last fall, that a comparatively small catheh this year was to be expected, and therefore oppose having the special fishing season repeated.

It appears, however, that the self-same agitators, who are largely engaged in the live lobster trade, are again seeking to give this most valuable fishery a "knock out" by the under-the-belt blow of another special fishing season this fall. It is claimed by the agitors that the half million dollars received for the catches last fall was clear gain to the fishermen and that the goose can again lay the golden egg for their special benefit. They apparently forget that the half million dollars would have been secured with interest during the regular season this year, and without the hardship and danger to gear that usually accompanies late fall fishing. They also forget that the vast majority of the fishermen do not favor late fall fishing, as experience has taught them that the regular spring season is by far the most desirable. It should be further noted that the fishery cannot stand the inroads of additional seasons or extensions. The fishery is too valuable to be permitted to be endangered by the unwise exploitation in favour of certain American dealers in live lobsters.

Neither should it be forgotten that any such special fishing season has a bad effect on the canned lobster trade, by disturbing the limited markets of this high priced canned food product, and also interfering with the reasonable exceptation of the fishermen of St. John and Charlotte counties, New Brunswick, where the fishing season opens November 15. Last year, as a consequence of the special season granted western Nova Scotia, the prices received for New Brunswick catches dropped several dollars a hundredweight, and it should be noted that the whole catch of Charlotte and St. John, were an export size limit obtains, are marketed in the United States.

It would also appear quite clear that if the present regulations for western Nova Scotia do not permit a safe quantity of the annual crop to be taken each year, the proper course is obvious, namely: Amend the regulations. And as it is probable that the revision of the lobster fishing regulations will be undertaken in the early winter, the agitation for fall fishing can be thoroughly considered. In the meantime, the jeopardizing of the fishery should be avoided.

Biologists' Work For The Industry

Summary of season's investigations conducted at the Biological Station at St. Andrew's, N. B.—A medical discovery of importance By Dr. A. G. Huntsman.

BY DR. A. G. HUNTSMAN

The Biological Board of Canada is in many ways an unique organization. It was intended to bring the biologists (scientists studying life in all its aspects) into touch with the problems connected with life in the sea and water generally, with the expectation that facts would be discovered of importance to the fisheries. The Board has indeed been very successful in achieving the desired object, and the extensiveness and importance of its work are increasing year by year. The chairman of the board is Prof. A. P. Knight of Kingston, whose extensive labours in connection with the lobster industry are known throughout the maritime provinces. The secretary-treasurer is Prof. E. E. Prince, the Dominion Commissioner of Fisheries, and the other members are representatives of the various universities.

It is a necessity from the nature of the case that few people, even among those in the fishing industry, should appreciate the importance of the special work done by the board. The man in the city or elsewhere, who eats fish, is not interested in the details or difficulties of catching, canning or curing, transporting, storing, and marketing of fish, although he may realize vaguely that such things are needed and have their place. All his interest is to get good, cheap fish when the notion strikes him. If the fish are not good, if the price is not right, or if no fish are to be had, he begins to complain and think that something should be done, and his suggestions are rarely pertinent and practicable.

So with those in the fishing industry. So long as fish are plentiful, and the canning and curing turn out satisfactorily, the man in the fisheries is for the most part not interested in scientific work and at best considers that it probably has its places. But, when the fishery fails, or the product spoils, then there is a demand that something be done. What is never fully realized is that the persons with the training and ability to discover the needed facts are always rare and cannot be picked up at will like an employee in a business, and also that the new knowledge is built up but slowly, this man adding one thing, that man another, a third perhaps bringing the two things together with a little connecting link contributed by himself, and further realizing and demonstrating the importance of the whole matter in a certain economic process or situation. For these reasons it is important that, if and when a capable man is available for a certain investigation, he should be given the opportunity and facilities for carrying it through, and that our scientific men should be encouraged to add incessantly to knowledge concerning living things in the sea and methods of making them of use for food. Such is the specialization in science at the present day that it not infrequently happens that, when a certain investigation is urgently needed, there is not at the time available a man of the proper training and calibre to undertake it with a fair likelihood of success. The problems investigated in any one season at the Atlantic Biological Station are determined by the fact that certain individuals are available, as much as or more than by the fact that certain problems urgently need investigation. Problem and man, wrongly mated are barren of results. While it is ordinarily supposed that investigators are chosen to fit the problems, it is more the truth that, investigators being few and problems many, the problems are chosen to fit the investigators.

While the details of the investigations at the station at St. Andrews, N. B. would be appreciated only by the specialists who make use of them, it may be of interest to the fishing industry to know something of the nature and bearing of the problems investigated. This is not, however, the place, nor the occasion to more than briefly outline some of the results obtained in the work, much of which is still in progress and not at the stage for definite pronouncements. Also lack of space prevents our explaining, except in the briefest manner, the application that is likely to be made of such results as have been obtained. Each of the various problems really calls for separate fuller treatment.

Mackerel Investigations

At the suggestion of the fishing interests of the Atlantic coast of Nova Scotia, the expedition planned for the Biological Boat "Prince" along that coast for the past summer was devoted largely to an investigation of the mackerel. It was expected that knowledge would be gained as to any spawning of the mackerel there and as to whether such spawning was or could be successful. Also it was planned to collect information generally on the life history, habits, and occurrence of the mackerel. Margaret's bay and the coastal waters were covered repeatedly from Cape Sable to Country Harbour.

Dr. P. Cox of Fredericton undertook the general study of the occurrence of the mackerel and of its habits and conditions locally near Hubbards. Mr. M.I. Sparks of Toronto examined microscopically the material taken in fine nets in order to determine when and where mackerel eggs were spawned and whether or not they succeeded in hatching out in those cold waters. Comprehensive material for this and other problems was collected, and a considerable part of the work on this was done, although it will require considerable time to even preliminarily complete the work. Some points are, however, already clear. The mackerel (as was foreshadowed in the expedition of 1915) certainly shed only a very few eggs along the Atlantic coast of Nova Scotia, and there is no indication that any of these survive to produce young mackerel. However, the conditions found at the head of St. Margaret's bay are such that the eggs of fishes like the blue perch or cunner, the witch, and the plaice develop successfully and produce large numbers of the young of those fishes. As these eggs develop successfully with those of the mackerel in the Gulf of St. Lawrence, it is reasonably certain that if mackerel ever spawn at the head of St. Margaret's bay, (which spawning may occur in some years), the eggs would develop successfully. Elsewhere along the coast the conditions are in large part, or wholly, unsuitable for such development, chiefly because of the low temperature. It is also clear that St. Margaret's bay and adjacent waters form

an important and successful breeding ground for the lobster because of the higher temperature there. The greater abundance of smallish lobsters in those waters indicates this.

The Shad Problem

The decrease in the catch of shad has been a cause for complaint for many years and has brought about first of all the establishment of hatcheries (later abandoned) and latterly of the institution of a close season of a period of years. Comparatively little has been known of the life of shad



DR. A. P. KNIGHT
Chairman Biological Board

both in its fresh-water and marine stages, so that it has been very doubtful as to what means would be best to bring about an increase in the catch without interfering too much with the fishery. Mr. A. H. Leim of Toronto has been studying the life of the shad on the Shubenacadie river and in Minas channel and intermediate waters. He finds that in the river mentioned the great majority of the eggs spawned perish owing to the natural acidity of the water being too great. It is not unexpected, therefore, that he finds the shad fry in that river to be very few. This clearly indicates that the eggs should be cared for. He finds also that in its sea life (the most important growing period, which lasts several years) the shad feeds upon small species of shrimp, similar to but distinct from those ("shrimp" and "red feed") which form the chief food of the herring.

Important Medical Substance in Fishes

Within the past year or so Prof. J. J. R. Macleod and his colleagues in Toronto have discovered and investigated the properties of a remarkable substance, which is to be found in the pancreas of animals, and which they have named insulin. This substance has the remarkable property of taking away the symptoms of diabetes and may be of enormous value in controlling this disease. At the station Prof. Macleod this past summer has found this substance in the skate and dogfish, and in a particularly concentrated form in suc fish as the sculpin and monkfish. These fish, now thrown away may prove to be of considerable importance in this connection. Dr. F. S. Jackson of Montreal has co-operated with Prof. Macleod in locating this substance in fishes.

Experiments on Currents

The greater currents of the ocean have long been known, owing to their importance in navigation. The lesser ones, which nevertheless modify climate and affect the distribution of fishes, are still in large part unknown. In 1919 Dr. J. W. Mavor of Shenectady was asked to determine with drift bottles the constant currents of the Bay of Fundy. This work was done from the station in 1919 and 1920 and has cleared up the matter of the general movement of the water in that bay and in the adjacent Gulf of Maine. Some of the bottles were caught up in the Gulf Stream and carried to the Azores, the British Isles and to the north of Norway in the Arctic ocean. The International Committee on Deep Sea Fisheries Investigations has this year planned an extension of this work along the coast. The Station has had four sets of drift bottles put out. One lot by the assistance of the Newfoundland Government was set adrift on a line from St. John's out to sea across the Grand Bank. Another lot was dropped by Mr. G. F. Sleggs of Halifax from the Steamer "Kyle" across Cabot strait from Sydney to Port aux Basques. A third lot was put out on a line from Canso to the north of Sable island from the C. G. S. "Arras", and a fourth on a line from near Cape Sable out to sea across the fishing banks from the Biological Boat "Prince". The United States Bureau of fisheries has put out bottles along three lines running out to sea from points on the coast, the most southern of which is New York.

The returns are still incomplete, but they indicate (1) that the Labrador or Arctic current comes west along the south coast of Newfoundland to a negligible extent only and does not reach our shores, (2) that there is an immense eddy North of Sable island and into the Gulf of St. Lawrence through Cabot, strait, the water moving from east to west on the north and from west to east on the south side, and (3) that the water around Cape Sable is largely moving into and around the Gulf of Maine and Bay of Fundy.

Freezing and Fresh Fish

Fish can be available at all times and in all markets in a fresh condition only by freezing. When the freezing is properly done, the frozen fish are indistinguishable from fresh in tests that have been made at the station. Although it is the ideal method for distant markets and for other seasons than that in which the fish are caught, freezing is rarely carried out in an ideal

fashion. Consequently frozen fish have not had the reputation they might enjoy. Dr. E. G. Hood of Macdonald College has begun an enquiry into the deterioration of cold storage fish both before and after freezing. He finds already that the chief damage is done *before* the fish are frozen. Fish that have stood only for a few hours before being frozen are decidedly inferior and go utterly bad in a very short time when thawed. If the demands of those who like really fresh fish are to be met, the greatest care and speed must be used from the death of the fish up to the time it is fully frozen.

Dr. Jackson has nearly completed a study of the effects of varying the rate of the freezing itself and has found a very great difference in such fish as hake and cod, depending upon whether they are frozen rapidly or slowly. Rapid freezing gives a perfect product, while slow freezing utterly ruins the fish for food purposes, as it becomes tough, spongy, and tasteless. Other fishes are affected similarly, but not to the same degree.

The principal part of the flesh of the fish consists of chemical substances called proteins. Little is known of their nature and of the changes they undergo even when no bacteria are present to decompose them. Dr. C. C. Benson, Professor of Food Chemistry in the University of Toronto is making pioneer studies of these substances, and the results to be obtained will undoubtedly enable us to devise more perfect methods of keeping the flesh of the fish in as nearly like the fresh condition as possible.

Lobster Canning

Extensive losses in lobster canning were reported to the station in 1918, and Miss J. McFarlane of Toronto began in that year a study of the causes of the discoloration that spoiled the pack. She found that certain bacteria would produce the discoloration and that the bacteria in some cases at least had not been killed in boiling the cans. The subject, as so often happens, proved to have many angles, and later Dr. F. C. Harrison of Macdonald College took it up with the result that a detailed report of extensive work on deficiences in lobster canning will shortly be available. The conclusions will apply in large measure also to the canning of clams and finnan haddie, where similar trouble has been experienced.

Prof. Knight has been studying the sanitary conditions in general in connection with lobster factories as these have important effects on the quality of the output. He has inaugurated a thorough educational and inspectional campaign in the direction of improvement of the conditions found to exist. Dr. G. B. Reed of Kingston, Ont., who has been associated with Prof. Knight in this work, has just made at the station a study of the bacteria present in lobster meat in commercial canning factories, and has determined the source of the principal species of these organisms that are involved. His chemical investigation of the action of these important species upon fresh lobster meat has advanced sufficiently to indicate the probable cause of discoloration in canned lobster, the explanation appearing to be that certain of these bacteria start to decompose the lobster meat before they are killed in the canning process, and as a result of this slight decomposition there later comes the blackening. This emphasizes the fact that for lobster as well as for fish proper, preserving methods need to be carried through with the greatest speed, particularly in warm weather, in order to ensure a good product.



Some Voluntary Workers at St. Andrew's Station

Salting of Fish

Salt is extensively used in the curing and preservation of fish, its chief action being to prevent the growth of the bacteria that rot the fish. Salts differ and bacteria differ, and the best procedure in all cases is not yet known. Mr. J. M. Luck of Toronto has entered upon a study of the effect of various salts on the growth and action of the bacteria that decompose fish. This study, which will take several years, will be pursued by Mr. Luck under a travelling fellowship which he recently obtained, and will to a considerable extent supplement the investigation (already made public) of Dr. Harrison on the causes of, and the means of preventing, the red discoloration of dried fish.

Increasing the Smelt Fishery

Why does the smelt furnish the most valuable fishery of all in the Miramichi estuary, and occur in practically negligible quantities in such a bay as Passamaquoddy? Could not they be made abundant in the latter? We have found one condition that explains in part the small numbers in the latter region, namely the failure of the smelt's eggs to develop as spawned in the Magaguadavic river below St. George. The salvaging of these eggs is the next problem. Mr. Neil MacLeod, Jr. of Summerside, P.E.I. has worked out the abundance of the smelt fry in the Magaguadavic and the St. Croix rivers and also the life history of one of the two kinds of smelt in Lake Utopia, which is connected with the Magaguadavic, these things being necessary in conection with the problem. It is expected that means will be found to make the smelt fishery of considerable value along sections of the coast, where at present it is of no moment.

Fish Raising

When we speak of fish culture, we do not mean as much as when we say plant culture or stock raising. Fish cult re in nearly every case has meant merely the getting of the eggs, the caring for them until they hatch out, and the liberation of the fry. No attempt is made in most cases to care for the fish (provide them with suitable food and protect them from enemies) during the critical fry stages and during the later important growing period. Such a venture bristles with difficulties, but the time is coming when it will and must be done. Prof. A. B. Klugh of Kingston, Ont., has undertaken extensively experiments in cultivating a serise of plants and animals that can be used for the food of fresh-water fish. He has already succeeded in growing experimentally both microscopic plants that form the living basis for fish food, and also the small shrimp that live upon these plants, and that serve themselves as the food of fishes or of other animals eaten by fishes. When success has been obtained in the controlled growth of all the elements in such a necessarily long "food chain", it will be possible to raise fish in as certain and efficient a fashion as cattle are raised on a farm.

Growth of Shellfish

For the shellfish that do not move about and that can be planted, as for example the oyster, no matter is of greater importance than that of the effect of varying natural conditions on their growth. What conditions are best, is the question that needs answering. We have found that light is very detrimental to the mussel, full sunlight stunting it to less than one-third of the size attained in the dark. Mr. H. S. Coulthard has been studying the effects of varying amounts of light, of varying positions in the tidal zone, and of various temperatures on the growth of the mussel, and the results obtained will be in part applicable to other more valuable shellfish.

Prof. A. D. Robertson of London has been investigating the growth of the oyster under various natural conditions as they occur in Richmond bay and in the Hillsborough estuary, P.E.I. His results form a basis for the rational planting of oysters.

Rearing Experiments

That the fisheries are being depleted and that the waters should be restocked in some way is a never ceasing cry. Unfortunately we still have all too little knowledge as to what are proper conditions for successful natural or artificial restocking, and also as to where such conditions are to be found. We have discovered an enormous contrast between the Magdalen shallows (southern part of the Gulf of St. Lawrence) and the Bay of Fundy as breeding places for many fishes and other forms of life. Why should the breeding of cod, mackerel, lobster, oyster, etc. be such a failure in the Bay of Fundy? In this connection we have just finished artificially rearing lobster fry under various conditions in the laboratory. The rearing of these fry is a method extensively used in some places for restocking waters. We have found that lobster fry are killed by several days exposure to full sunlight when all other conditions are kept right. We have reared them successfully in the shade or in the dark at various temperatures, namely 77 deg., 68 deg., and 59 deg. F. from the time of hatching up to and even beyond the fourth stage, but at 50 deg. they all died before or when going into the second stage, while at 41 deg. they did not develop at all. This explains the lack of young lobsters in the Bay of Fundy, whose waters in large part never go above 50 deg. even for a short time. These and other results demonstrate that certain changes should be made in the lobster regulations, and that rearing of the fry is necessary for the cooler of our coastal waters, if an adequate supply of young lobsters is to be ensured.

The total absense of the fry of many fishes in the Bay of Fundy even when the eggs are spawned there has been explained by other experiments. Miss E. M. Taylor of Toronto found that the eggs of the blue perch or cunner develop successfully, hatch out into larvae, and the larvae develop until the yolk is used up, if only the temperature of the water be high enough, as for example 59 deg. or 63 deg. F. But at 50 deg. the eggs develop very slowly, and though they may hatch out, the larvae rapidly perish. This explains why the cunner is found in Passamaquoddy bay only as individuals of relatively enormous size, which must be very old and have in the course of years wandered from their successful breeding grounds such as St. Mary bay, N. S. where the temperature is (at the head of the bay) high enough for the eggs and fry to survive at least in favourable years. Like those of the cunner, the eggs of the rockling and witch are spawned in the Bay of Fundy, but none of the larvae are ever found. We have recently taken these eggs from the bay and found no difficulty in hatching them and rearing the larvae until the yolk was used up if only the temperature were raised to about 60 deg. At 50 deg., however, though some might hatch, they were usually misshapen and perished.

Must Join Forces

The importance of the scientist and the man in the fisheries getting into touch with other so that important economic applications may come from the scientist's investigations, has many times been emphasized. It will be abundantly evident from the outline just given of the work done in connection with the Atlantic Biological Station that the scientist is in touch with problems of vital economic interest and that he is solving them, although never as rapidly as he and others could wish. Will the man in the fisheries do his part in a rapprochement with the scientist by going to the latter about subjects that require investigation, not expecting that the matter will necessarily be cleared up in an instant or even in a year, and by assisting him in his work whenever the opportunity arises? It is only natural that the investigator should consider those problems of importance of which he hears most, and that he should continue to explore along fishery lines only when his labours are appreciated and assisted.

Does the man in the fisheries understand how such work as detailed above is accomplished? If he is merely

a hard-headed busines man, he probably never will understand how it is done, even though he realizes its value. The work owes its origin to the foresight and enthusiasm of certain Canadian scientists, who at the close of the last century pressed upon the attention of the federal Government the importance of facilities for such work being provided in Canada, while the Government provides a grant, used merely for actual expenses in enabling the work to be done, this money is insufficient in amount considering the magnitude of the interests involved. Also it should be known that this grant is not alone responsible for the work accomplished. The members of the Biological Board give their time and attention to the work without remuneration. The investators receive no monetary compensation for their labours, but only the credit of work well done. They devote a large share of their vacation and often no inconsiderable part of the remainder of the year to the problems on which they are engaged. The various colleges and universities represented deserve credit for making it possible for members of their staffs to take part in this work, and for providing facilities for such men to continue the work while attending to their academic duties. The Council for Scientific and Industrial Research is assisting by granting scholarships (living expenses only) to permit promising young men to prove their ability in these investigations.

What will the fishery interests do for work, of which the results benefit them chiefly? Much they could do. Already various individuals and firms have assisted by furnishing material and facilities. We ask for a continuance and an extension of such assistance, even when it means money and inconvenience. The scientists, the Governments, and the universities are giving time and money for this work; why not those engaged in the fisheries?

Fisheries of China are Neglected

Fisheries have been neglected in China. Though the lack of interest of the authorities is one reason, the principal drawback to any scheme of development is the activity of pirates and local bandits. Many fishermen are obliged to pay Government taxes to the pirates who infest the territorial waters along much of China's 3,000 mile coast line. The navy gunboats afford a slight measure of protection, it is true, but the menace remains unchecked, and so militates against the introduction of modern methods of fishing.

It is very difficult, owing to the confusion in the industry and the lack of any centralizing medium, to gain statistics of production. Hupeh claims an annual catch of 92,000,000 catties valued at $9,000,000. The fish include carp, herring, perch eel, whitebait, shad, bream, tench, and sturgeon among others. The rivers in Heilungkiang yield a wealth of fish and fishery products, the principal regions being Hailun, Payen, Lansi, Tatung, Tangyuan, Talai, Shaochow, Kikiang, and Noho. This province, according to one report, yields 27,479,000 catties, but the figure is by no means the limit of its productivity. The fishing districts are very thinly populated and could maintain a much larger number of people, who, if freed from the superstitions of the localities, could earn a very comfortable livehood. It is impossible to supplement the statistics for Hupeh and Heilungkiang by figures from other provinces as no tables are obtainable, and even the records for the two provinces named are based only on private investigation.

In view of China's neglect of her own resources, she has to rely on imports to supply the wants of the population. The main exporters are Hongkong, Macao, and Japan, whose trade with China for the last three years is given below:

Imported from	Quantity in Piculs	Value in Hk Tls.
1918		
Hongkong	604,795	6,716,487
Macao	242,285	3,455,030
Japan	469,538	3,408,084
Imported from	Quantity in Piculs	Value in Hk. Tls.
1919		
Hongkong	563,845	5,637,798
Macao	267,526	1,434,489
Japan	349,770	2,570,359
1920		
Hongkong	684,665	6,202,646
Macao	239,096	1,299,274
Japan	525,115	3,878,809

(The total imports as given in the Customs returns are: 1,749,203 piculs, valued at Haikwan Taels 13,305,690).

These values represent eight to twelve times the total value of China's exports, which show a continuous decline. Russia is the principal customer (its share being about 50 per cent). by reason of its contiguity to some of China's main sources of supply.

In order to remedy a state of things which is going from bad to worse, the Ministry of Agriculture and Commerce has drawn up a scheme, which is here outlined:

1. The Introduction of Modern Methods. Two technical schools for the fishing industry have been established in Tinghai, (Chekiang, and Kuangyun (Kiangsu), with the object of introducing modern fishing methods to these two provinces. A trawler has already been built in Tinghai, where the students will be able to conduct experiments. This year another trawler will be constructed for the use of the Kuangyun school.

2. The Establishment of Fish Markets. More than a dozen fish markets will be established in the seven costal provinces, which will be divided into fishing areas for this purpose. Each area will have one fish market to be promoted and organized by individual merchants and subject to the direct control of the Ministry of Agriculture and Commerce. The methods adopted in Tsingtao and Dairen will be copied, and arrangements will be made so that the fishermen, fish dealers and buyers will receive mutual benefit. The Ministry of Agriculture and Commerce is drawing up a set of regulations which will shortly be promulgated. Individual merchants will be invited to form companies and establish fish markets and the Ministry will levy a small contribution, the proceeds from which will be used for the education of the fishing people and the relief of the poor.

3. The Fishing Association. The Ministry is convinced of the necessity for organising an association representative of all the fishery interests, and a set of regulations governing the working of such an association will soon be published in order to hasten its promotion.

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Newfoundland Fisher Folk Suffer

Dr. Grenfell describes conditions of distress in northern section of the country—Semi-starvation and nakedness.

A story of semi-starvation and nakedness among many of the fisher folk of northern Newfoundlond was told by Dr. Wilfred Grenfell, of Labrador fame, in the log of his hospital ship Strathcona, recently received at St. John's, Newfoundland. The log was written while Dr. Grenfell and his party of twelve doctors, nurses and teachers were making the first part of their summer's trip along the east coast of Newfounldand, from Twillingat northwards. Of the trip as far as Westport Dr. Grenfell wrote:

"There was so much sickness and poverty in all this section of the coast that now, after two weeks, we are only at Westport, having treated over three hundred sick people, many cases the result of semi-starvation, for dry white flour and molasses will not maintain life even if there were enough of it. Besides two who died of beri-beri, another name for starvation, we found one young man crawling up from his stage to his home on his hands and knees because he was too weak to walk.

"Fleur-de-Lys kept us two full days. Here also was much need and many patients. Here we have tried to start a branch of industrial work in the form of building model schooners. A fleet of seven awaited us, three of which were perfect beauties. We hope to advertise these boats in the United States and Canada and get good prices for them. Nothing is more urgently needed on this coast than the development of the excellent native talent along remunerative industrial lines.

"The facts we have observed so far tally entirely with the letters and telegrams we received in America during the winter. Semi-starvation has been the rule rather than the exception, actual starvation has not been absent. Nakedness is the pre-dominant note, for when food was unobtainable clothing was not even to be thought of.

"My last patient to-night was a widow, thirty-four years of age. She looked fifty. With two barefooted naked children, she has come for cough and pain in the chest. Pale and haggard she sat in my cabin without one word of complaint. She had been on dry white flour and molasses all winter, her little girl of two years showed it only too clearly. At times she had been even out of dry flour, and pathetically told how her poor neighbor, a very poor neighbor, had loaned her one of his two barrels, which as yet, she had not been able to repay. Her two elder boys had worked at pulpwood—the form of relief given by the government this winter—but had been unable to earn enough for sufficien' food and clothing of the coarsest kind and had, like many hundred more, to face the winter cold utterly inadequately protected. The experience of every one has been that the working man cannot support even a little family, not even feed them, at 'pit propping' at the prices paid, unless under very favorable circumstances, such as having one or two lads with the father."

Extortionate Prices Demanded

"At La Scie to Round Harbor and in Confusion Bay the people got $5.00 per cord, rinded, sawn and piled, while at Westport and Middle Arm $4.25 was paid. In Round Harbor flour sold at $11.00 per barrel and molasses at $1.00 per gallon. At Westpoint $13.00 was paid for flour and $1.20 for molasses. Butterine has been very scarce and Sterling Oleo cost from 37 1-2 to 40 cents a pound. The laborers have no chance of cash payments, and had to accept the prices or go without .

"The most serious disaster of all will be, however, if, now, the material is not utilized. The immense amount of unutilized pit props cut in past years, and now rotting in piles under the eyes of the men, who often went through so much misery to cut, stack and haul them, are a serious source of discontent. Our northern woods cannot stand the drain well; they reforest slowly and everyone grudges the cutting of them unless they are really used. The relatives of one of the men who died of beri-beri told me he worked almost until the last moment, still going to try to "do his bit," after his half paralyzed limbs had swollen so that he could hardly drag one after the other over the snow and until his belt would scarcely circle his waterlogged body, and all for pulp-wood. I forbear to describe here other cases, but our records are available to anyone who is really interested in this vital problem."

"How about the chance of these people earning enough this summer to enable them to tide over next winter. Alas, their chance is seriously imperilled by the depreciation of all they owned last year, and have no chance to replace. Several men have come to us who have not even a line with which to catch fish, a grain of salt to preserve it, or a boot or oilskin to protect them while on the sea at work. Warm garments are equally conspicuous by their absence and nets in many cases are useless because of lack of twine to repair them. 'Oh, someone will supply them,' is the usual reply. But the smaller and only merchants say 'We are not able to do it.' "

If these terrible times are a death blow to the whole supply system, a vicious heritage of the colony, even the price paid will perhaps not have been too great." (Under the 'supply system' the fishermen get their outfit from the dealers and pay later with their catch. There are few cash transactions except when settling up times come. It has been charged, in connection with this system generally, that buyers are especially liable to be charged excessive prices and that it lacks the moral benefits of cash transactions).

HOW FISH HEAR

Very few people could say off-hand what a fish's ear looks like. And those who could say would explain that it looks like nothing because there is no ear-piece visible.

Sounds have to be transmitted through the unbroken surface of the skin and flesh, by way of three auditory nerves, to the exquisitely-fashioned little sounding boards which lie near a fish's skin.

This much a press representative learnt from Mr. G. Allan Frost, F. G. S., of Farnborough, Kent, who has devoted years of his life to the study of the dedicate mechanism which enables a fish to hear, and which also provides it with a sense of balance. Mr. Frost lent his wonderful collection of otoliths for exhibition at the Fisheries Exhibition, where it has attracted much attention.

Fairy-Like Bands

What is an otolith?

An otolith is the substance looking like bone, but compounded of the same materials as a pearl, which forms the receiving boards of a fish's hearing apparatus. Up to a certain number of years, after which the "pattern" is often rather confused, experts can tell the age of a fish by the rings delicately graven on his otoliths.

A pearl accumulates its substance round a kernel-like centre. A growing fish adds a flat ring of calcium carbonate to his otoliths from time to time.

Finely fretted, exquisitely curved, and ringed with fairly-like bands, the otoliths look as if they might be serious rivals to their cousins the pearls should some Philistine seize them and turn them into a necklace.

Lying among them are fossilised specimens, which were all that remained of the fish they once belonged to when the curious scientist dug them up from their age-long bed.

Other otoliths, now part of the stone in which they are embedded, so far as lay eyes can see, tell stories to scientists of fish that swam before men walked. — Fishing News.

AUGUST SPLENDID FISHING MONTH

The quantity of sea fish landed on both the Atlantic and Pacific Coasts during the month was 1,242,316 cwts. valued at $3,161,044, while for the same period in the preceding year 757,378 cwts. were taken valued at $2,241,701.

There were 477,434 cwts. of cod, haddock, hake and pollock taken compared with 350,805 cwts. in August 1921. The catch of hake was three times as great as during the same month last year. 17,873 cwts. of mackerel were taken during the month compared with 15,836 cwts. in the corresponding period last year. This brings the total catch for the year up to 203,151 cwts. compared with 116,694 cwts. last year.

During the month there were 16,921 cwts. of lobsters taken compared with 11,544 cwts. in August 1921. Since the opening of the season in November last, there have been 331,698 cwts. Of this quantity 59,785 cwts. were used fresh and the remainder canned, making 135,934 cases. In the corresponding period last year 315, 693 cwts. were taken of which 83,206 cwts were used fresh or shipped in shell and the remainder canned, making 116,697 cases.

On the pacific Coast the catch of halibut was less in August 1921, while the catch of salmon was more than double, there being 471,200 cwts and 224,010 cwts taken during the respective months.

One fisherman lost his life off the Atlantic Coast during the month.



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Japs Deceive Pearl Experts

Cunning Orientals assist nature in growing precious stones—Pearl Oysters bred in California waters.

Owners in Paris of valuable strings of pearls have been thrown into something like consternation by the published opinion of Dr. Louis Boutan, professor of science at the University of Bordeaux and an expert in pearls, that he and other pearl experts are unable to distinguish between real pearls and those artifical ly grown by the Japanese. The statement of Dr. Boutan, made at the French Academy of Sciences, removes the last hope concerning Japanese pearls, which have been grown in quantity since M. Mikimoto, the Japanese scientist made his discovery.

Pearls normally are grown by accident, through a fine grain of sand entering the shell of the oyster. The white substance, called a pearl, grows inside the oyster and is a secretion caused by the effort of shell-fish to get rid of the foreign substance. Mikimoto conceived the idea of opening oysters and inserting the foreign substance, or grain of sand, that formerly came there accidentally.

Since Japanese began to grow pearls artificially, there has been much discussion as to whether these new pearls would affect the value of the accidentally grown pearls. The only difference would appear to be in the pearl seed, or grain of sand, and now it is claimed by Dr. Boutan that even this difference cannot be detected.

The statement of Dr. Boutan is categoric: "If I did not have a certificate of origin when sections of pearls were shown me, pearls cut into sections for testing purposes, I would not be able to say which pearl is artificial."

BREEDING PEARL OYSTERS

Nearly all of the pearls that go to make up the gorgeous and expensive "ropes" now so much affected by fashionable women and chorus ladies are derived from a bivalve mollusk called the pearl oyster; though, as a matter of fact, it is not a true oyster at all. But never mind about that. There are, as everybody knows, pearl oyster fisheries in the Persian Gulf, in certain Japanese waters and in various other parts of the world.

It is only in the Gulf of California, however, that a successful effort has been made to breed pearl oysters, the plant established for the purpose being located in San Gabriel Cove, Espiritu Santo Island.

There a lagoon is cut off from the waters of the gulf by a massive barrier of masonry, and behind the latter is a long zigzag canal built of concrete. The canal is used for rearing baby pearl oysters, and its entrance is screened by gates of wire net to keep out mollusk-eating fises, starfishes and other enemies.

During the breeding season heavy framed wire-covered crates containing lattice trays of wood are placed on the bottom of the lagoon, in order that the free-swimming bivalves may attach themselves thereupon and proceed to grow. To make sure that there shall be plenty of such "spat," a number of spawning oysters are put into each crate.

The bottom of the lagoon is cleaned of plant growth and has been paved with stones by divers in armor. When the young oysters are an inch or two in diameter they are brought into the canal, cleaned of any seaweeds their shells may have acquired and placed in shallow wire trays in lattice racks, being thus supported above the bottom and exposed to the tidal flow of the water.

Through the canal the tide flows and ebbs, carrying mulitudes of minute plants and animalcules to feed the growing oysters. A thatched covering runs along the whole length of the zigzag ditch of concrete, affording a shelter to protect the bivalve against the heat when the water is low.

After eight or nine months in the canal the oysters are returned to the lagoon in the crates and left there to grow until they are three years old. Smooth inclined planes of concrete along the sloping beach facilitate the manipulation of the crates, which are dragged over them into and out of the sea.

By this ingenious method the pearl oyster, hitherto a wild animal, has been reduced to a sort of domestication; and fishing for it, under ordinary conditions a hazardous business is deprived of its dangers. The production of pearls is necessarily more or less accidental, but the shells, so highly valued for buttons and articles of ornament, yeild the bulk of the money income derived from the enterprise.

The business of breeding pearl oysters is an industry in itself, though this is not generally known.

FRY AND FINGERLINGS DISTRIBUTED

This season over 266,000 Atlantic salmon advanced fry and fingerlings were distributed from the Banff Hatchery, Banff, Alberta. This is an increase of 100 per cent on last year's figures.

The number of Atlantic salmon advanced fry and fingerlings which were distributed from Margaree Hatchery, located at North East Margaree, Cape Breton, was 138,500. Although not quite as high as last year, it is a very creditable showing.

At Windsor, some 3,700 Atlantic salmon advanced fry and fingerlings and some 3, 500 speckled trout and fingerlings were planted out in the lakes and streams in the vicinity of the hatchery. This is an advance of 20,000 on the number distributed in 1916, which was the last previous year that fry were retained for feeding at this establishment.

To date some 362,000 Atlantic salmon advanced fry and fingerlings were distributed from the St. John Hatchery. This number is not quite as large as the distribution figure last pear, but there are still speckled trout, rainbow and brown trout and landlocked salmon to be distributed from St. John this fall.

At Cultus Lake 3,732,500 sockeye salmon fingerlings were distributed. This shows a tremendous increase on 1921, during which only 10,000 sockeye fingerlings were distributed.



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Official Organ of the Canadian Fisheries Association

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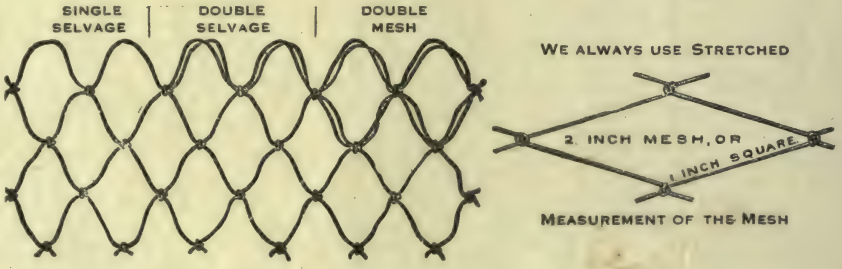
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Official Organ of the Canadian Fisheries Association

A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada, and Technical Education of those engaged in the Industry.

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SUBSCRIPTION

Canada, Newfoundland and Great Britain $2.00
United States and Elsewhere $3.00
Payable in advance.

Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, Gardenvale, Que.
Telegrams and Express Ste. Anne de Bellevue, Que.

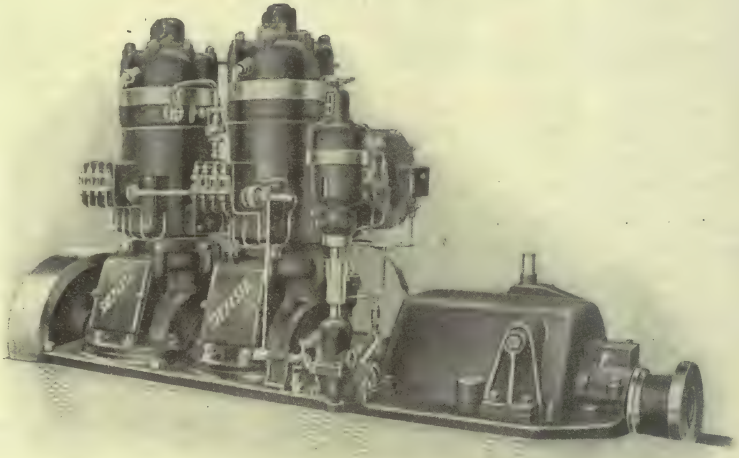
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:-: EDITORIAL :-:

JAMES H. CONLON, Editor

WHEN A BONUS IS NOT A BONUS

Under authority of "An act to encourage the development of the sea fisheries and the building of fishing vessels," the government distributed $160,000 to fishermen and vessel and boat owners on the Atlantic coast last year. It has been doing the same thing since 1882 and in the same way. Keeping in view the object of the expenditure as defined in the title of the act authorizing it, it is illuminating to study the effectiveness of its distribution.

Each vessel owner got a bounty of $1 per registered ton, payment on any one vessel not exceeding $80.

Each owner of boat measuring not less than thirteen feet keel, $1 per boat.

Each vessel fisherman, $7.

Each boat fisherman, $5.30.

Altogether, bounties were paid on 586 vessels and 11,068 boats; to 4,273 vessel or deep-sea fishermen, and 19,128 boat or inshore fishermen.

We can imagine the enthusiasm stimulated among the young gallants along the Nova Scotia coast to "go down to the sea in ships." Who would not be impelled to weather the elements on the banks and even risk his life, with the prospect in view of a $7 bonus at the end of the year? Why by laying that aside each year for a thousand years one will have built up a tidy fund to provide for his old age. Of course if he has the misfortune to live only a few hundred years, why he's simply out of luck.

And as for inshore fishermen, we can imagine the men folk scampering about in kittenish glee over the prospect of a $5.30 bonus, the wherewithal to procure a new pair of suspenders, some wollen socks, some strong shag and a few plugs of chewin'. What, say! A season's work should justify such dissipation.

And Mr. Duff and other prosperous vessel owners in the east must chuckle mirthfully at the gratuity of a dollar a ton to make sleek swans of their homely fishing craft. We can imagine Angus Walters gazing speculatively at his cracked and weathered spar and calculating what his vessel bounty of $70 or $80 will do towards replacing it. With his bounty in one hand he goes about his vessel studying what he can do with it and, finally, in absolute surrender, he calls the boys together and invites them ashore to have a ham sandwich and a cup of coffee—just a little mug-up.

Mr. Boat-owner on receipt of his one dollar gratuity straigthway proceeds to bedeck his craft and sally forth in splendor to stupify with amazement the fishes of the sea and dip-net them in their bewilderment.

Scattered over forty years the government has spent six millions and a half, excluding interest, and it has just drifted through the sieve in dollars and five dollars. Originally it was said to be the interest on the Halifax award of 1877 by which the United States paid us $4,500,000 for certain concessions. Immediately someone conceived the brilliant idea of instituting a waste fund and he certainly accomplished his purpose. Six millions and a half shot to the devil in forty years! And the unconcern with which the matter is being regarded by politicians gives promise of another few odd millions being shot before the country wakes up.

We perhaps would not be so critical if the industry was provided with all the money necessary for its honest expansion and we were rolling in the wealth of Croesus. But such is not the case. The government is crying for economy, and up to the present a matter of $25,000 is denied us for the very essential reform of instituting a separate fisheries department. We have little reason to doubt that the fisheries administrative officers realize the utter futility of the fishing bounty and would, if nothing but the facts of the situation were to be considered, make other use of the money. Responsibility would seem to rest with the politicians. They see the danger of creating a bit of criticism among a few interested people and shy clear of the issue. Because a wrong exists is no reason why it should continue. Let those people in the House of Commons who are interested, or profess to be interested, in the development of our fisheries, show some initiative in the matter. One who hesitates because he fears to lose his seat at a subsequent election lacks the backbone required by men who are safe to trust with our affairs. We are not averse to the government's paying each and every fisherman $1,000 a year. God knows they could make good use of it, But we frankly feel that it is not a square deal to anyone to have the impression abroad that the Atlantic industry is bonused to the extent of $160,000 annually when, in effect, it gets nothing. A pound of flour is of practical use and one may make a loaf of bread, but when that pound is scattered hither, thither and yon, there is not enough for anyone to employ usefully.

GOVERNMENT POLICY RE DOGFISH

Elsewhere in this issue we have reproduced extracts from an address before the Prince Rupert Board of Trade by George G. Bushby, general manager of the Rupert Marine Products Limited, on the industrial opportunities arising from the reduction of dogfish and sharks, and the various reasons why such an enterprise should receive material assistance from the government.

In connection therewith two facts brought out at the hearings by the Royal Commission on the Pacific coast recently, stand out clearly, first, that the future supply of salmon and halibut is menaced by overfishing, and second, that the predatory dogfish, and, likewise, the shark, take a heavier toll on salmon than do the fishermen. Two logical deductions may be made from these facts, first, that it is behooveful to the government to rid the waters of predatory fishes, and, second, that if over-fishing has been the means of reducing the supply of salmon and halibut a stimulation of fishing for dogfish and sharks would have a similar effect on these species.

Another striking statement by the chairman of the commission may be applied to this dogfish enterprise. He declared that the business of fishing must be made a twelve months' occupation instead of a seasonal one if fishermen are to prosper and the industry progress. The Rupert Marine Products Limited at Prince Rupert, B. C. has been depending for its raw material on the waste and refuse from the salmon and halibut fisheries, but about this season of the year fishermen are laying up their boats and preparing for a winter's layoff. Consequently the reduction plant must also close up, despite the fact that the seas roundabout are alive with the raw material it requires. The proposition now is to keep the fishermen busy catching dogfish and the plant busy manufacturing them into commercial products, and thus give practical effect to Mr. Duff's conviction.

As Mr. Bushby points out, however, the present market for the commodities manufactured from marine waste is remote and the competition so keen that it would be impossible to pay the fishermen enough for the dogfish they catch to make the business worth while for them. He asks that the fishermen, therefore, be bonused by the government to the extent of $3 a ton or thereabouts and that it be paid them on the same tally upon which the reduction plants pay them. This would enable the government, as we pointed out editorially last month, to inaugurate a policy which would have ramified advantages. In the first place it would tend to remove a menace to more valuable fisheries, second, it would assist a new industry replete with many possibilities, and, third, it would provide employment for fishermen when they may otherwise be idle.

Let it be understood that the Canadian Fisherman is making no particular appeal on behalf of this company. It is viewing the matter entirely from the standpoint of the industry and the benefits that may accrue. Nor is the company making any request of the government for special treatment. It is not intended that the bonus should be paid to Prince Rupert fishermen alone, but to any fishermen in any part of the country who see the opportunity in the same or similar lines. Some years ago the government opened reductions works in the Maritime Provinces, with the object, we believe, of inducing private capital to launch into the field. The failure of the plan from a commercial viewpoint naturally did not inspire the necessary enthusiasm. A bonus policy, however, may do the trick. At expense comparatively trivial in proportion to the good that may result, the government may do a tremendous service to the industry and to the people engaged in it.

We understand that the government at Ottawa is being approached by Fred Stork, M.P., Prince Rupert, to assist the new industry, or, to put it another way, to help finance the destruction of marine species which are robbing the country of millions each year. Taking all angles of the question into consideration we feel that the project should receive the wholehearted support of Ottawa and we honestly believe such will be the case.

HON. MR. PERRAULT AND FISHERIES

Hon. J. E. Perrault, minister of mines, colonization and fisheries in the Quebec government, gave a courteous and most encouraging hearing to a delegation from the Canadian Fisheries Association recently. J. A. Paulhus, and the secretary of the association interviewed the minister with respect to overzealousness on the part of certain fishery officers which tended to seriously interfere with retail trade, and also as regards desired alterations in the fisheries act of the province.

The minister took immediate steps to adjust grievances and promised to take into serious consideration amendments proposed by the association, and furthermore, to consult the association on proposed changes in legislation and on fisheries policy generally.

Hon. Mr. Perrault took advantage of the opportunity to secure advise on the condition of the industry and what steps should be taken to develop the vast natural resource in the Province of Quebec. He was told quite frankly that the chief need was a bigger market and that the most effective means of creating this was to educate the people to eat more fish. The minister was much interested and intimated that more would be heard from him. He has proved himself a man of action and we confidently anticipate some practical steps to make more of the fisheries in this province. Quebec is in the fortunate position of having money to spend and the government is showing a disposition to spend it on improving the province.

WHERE CO-OPERATION WOULD PAY

National Fish Day, October 31, was a distinct success. Reports from all sections of the country indicate a marked stimulation of trade. Undoubtedly the celebration of this annual event is producing results. People are becoming more familiar with our sea and fresh water fishes and are becoming cognizant of their merit as food. Our domestic fish requirements are increasing, slowly, but growing nevertheless. This may be attributed entirely to the efforts of the Canadian Fisheries Association, supported by the fisheries authorities at Ottawa, and the fact serves as a practical demonstration of what may be accomplished by a little effort. Instead of relaxing now, the proper thing would be to increase the effort and encourage a greater and greater demand for seafoods to a degree compatible with the extent of our great resources.

Elsewhere in this issue we have enlarged upon the theme of expanding the home market and the reasons which make this necessary. Co-operation is the implement, and the only one, which will bring about the desired expansion. In a great many matters affecting the industry there is close union and agreement, but in the systematic development of the Canadian market there is positively no cohesion. There are a few, such as Mr. Paulhus, vice-president of the Canadian Fisheries Association, who advertise consistently to increase demand, but how much more effective would this effort of Mr. Paulhus, and others like him, be, if they joined forces instead of spending their money more or less blindly. Some centres are oversupplied with fish, others are fish-starved. Any amount of education will not induce a man to eat fish when it is not available to him except by journeying to Montreal, Toronto or some other centre.

The Canadian Fisheries Association has served the purpose of uniting the industry in a good many ways and it has accomplished many things which could not have been accomplished without it. Now that this pioneer work has been done it should not be a tremendous task to organize the industry for the purpose of undertaking a systematic development of trade at home and a proper expansion of the geographical area reached by our system of supply.

National Fish Day has taught us that people will increase their ration of fish. But even that has its limitation. Another way of accomplishing the same commercial effect would be to increase the number of fish-eaters and that means to give a more widespread service.

INSPIRATION FROM SWEDEN

In view of the very meagre results from our repeated requests for more substantial government aid to the industry it is interesting to observe what the authorities in Sweden are doing. Both state and local authorities there are taking steps to advertise to the public the advantages of increasing its fish fare. Fishermen are being encouraged to improve their boats and gear to attain maximum efficiency and modern fishing ports are being built by the government. Scientific research is being stimulated. In modern parlance, the Scandinavian government is shooting some pep into its fisheries. Reflecting upon the fact that the fisheries of Sweden can in nowise compare with our prolific resources, could it be said that the Swedes are showing unjustified energy? Or may it be that we are falling down on the job?

PISCATORIAL PARAGRAPHS

All the elements of the human body, if reduced to commercial commodities, according to scientific calculation, would not bring more than ninety-eight cents. In one way we're poor fish. The carcass of a sperm whale is worth $2,000.

Extensive gold discoveries are reported in the Labrador district and a big rush of prospectors is expected in the spring. What effect this will produce upon the economic condition of Newfoundland and the development of other natural resources remains to be seen.

It isn't the fishing industry alone that is objecting to the ever-tightening grip of the Orientals in British Columbia. Just recently the Retail Merchants' Association, alarmed by the increasing numbers of Japs and Chinese and their destructive competition in all branches of trade, has petitioned the government for an effective restriction of Oriental immigration. The easterners are crafty and they appear to possess an unusual faculty for evading the law.

Angus Walters talks sense when he proposes to the Mayflowers skipper a race from Newfoundland to the West Indies with equal cargoes of fish, then to Turk's Island to load an equal cargo of salt and return to Newfoundland. The Boston Post says it's a good sporty proposition and suggests that the Mayflower owners think it over. The incident merely emphasizes the fact that the Bluenose and the Mayflower were not built for the same purpose.

Courage Failed

The worried countenance of the bridegroom disturbed the best man tiptoeing up the aisle, he whispered: "What's the matter Jock?" Have ye lost the ring?

"No," blurted out the unhappy Jock. "The ring's safe eno'. But mon, I've lost ma enthusiasm.

Interesting Items from Old Country

By COLIN McKAY

Paris, France.—The oyster season has opened here, but the "R" months this year will be marked by a serious shortage of this succulent food throughout France. Some plague, which so far seems to have puzzled the scientists, attacked the oysters last year, and its ravages instead of decreasing have multiplied, and some of the large French oyster cultivators have been almost ruined. The strange malady caused a high mortality among the oysters last year, but this year the disease has attained the proportions of an epidemic. The death of the oysters takes place just when they have attained full growth and are ready to be dredged for the market. Various theories have been advanced to explain the mystery, the latest being that the oysters are attacked by a sort of fungus which grows with the rapidity of a mushroom in the affected waters.

Owing to the mortality among the flat oysters, in which the French specialize, prices have increased from 50 to 100 per cent over last season, and may go higher. Marennes, which last year cost 9fr 500c per dozen, now cost 14fr 50c; and Americans, which last year cost 8fr 50c will, this year cost 10 to 12 francs. Portugese oysters, which last year cost 2fr 75c, this year cost 3fr 25c.

Comparatively little work was done on the oyster beds during the war, and many were abandoned. This, combined with the epidemic, makes it unlikely that there will be a plentiful supply of oysters in France at moderate prices for at least four years. One year must elapse before new sprat can be planted, and it takes three years for the sprats to develop into full-fledged oysters. So even if the epidemic does not further deplete the oyster beds, lovers of this luscious dish will have to pay high prices or wait patiently for the return to normal conditions.

Shortly after the war, fishermen of Boulogne, France, were making 18,000 francs a year, equal to $1,500 to $1,060. This year their best earnings have been 457 francs per month, equal to about $45. Many have only earned 350 francs per month. They are guaranteed 250 francs per month.

Prices on Paris Market

Fine lobsters are selling in the central markets at Paris for 8 to 10 francs per kilo. This is 40 to 50 cents per pound. Retail fish shops charge consumers much greater prices.

Salt Cod at the central markets is selling for 2 to 3 francs per kilo—9 to 14 cents per pound— a big drop from prices prevailing just after the war. Haddock brings 5 to 6 francs per kilo—24 to 28 cents a pound.

French Salmon sells for 14 to 16 francs per kilo, while cold storage salmon range from 5 to 12 francs.

At the central markets in Paris, the sale of 200 tons of fish represents a big day's operation. At Billingsgate London, the handling of 800 tons is a good day's work.

Interesting Ceremony

An interesting ceremony, which is an annual custom, took place recently at the Church of St. Magnus the Martyr, London Bridge. In connection with the annual service of thanksgiving for the harvest of the sea, all sorts of fish, contributed by the dealers at Billingsgate, were exhibited on a specially constructed stand extending the whole length of the central aisle of the Church. All these exhibits were later contributed to Guy's Hospital.

Germany Bars Lobsters

The Government of Germany has prohibited the importation of lobsters, as part of its policy of restricting the consumption of lobsters. Before the war, a certain quantity of Canadian canned lobster was sold in Germany, but the market there was not of great importance.

Fisheries Congress

The 7th National Congress of the Maritime Fisheries Association of France was recently held in Marseilles. The last was held at Tunis in 1914.

Dantzig Develops Herring Trade

Since the war there has been great activity in the salt herring trade at Dantzig, due to the lack of other food stuffs in Eastern Europe and the enterprise of Norway and England in disposing of surpluses. In 1920, the quantity of herring landed at Dantzig was 522,207 tons compared with 240,601, in 1921, and 242,597 per year during the period 1911-1913. The imports for 1921 were made up as follows: England 308,000 tons; Norway 176,465; Sweden 7,247 tons, Denmark 2,633. It is believed that in the future, Dantzig will be a very important distributing centre for salt herrings. Special port facilities for handling this trade are being created. Docks have been placed at the disposal of the Dantzig Union of Salt Herring's Importers, and these docks will soon be connected with the railway lines running out of Dantzig. This port expects to supply Russia with salt herrings and Russia, before the war, was the greatest market for salt herrings in the world.

Eight-Hour-Day Abrogated

The action of the French Government in abrogating the law adopted in 1919 for an eight hour day at sea will apply to the crews of fishing vessels with the exception of engine staffs. This law was adopted at a time when it was thought all the maritime nations would establish an eight hour day at sea. Of course on steam trawlers the deck force worked irregular hours, but, subject to certain exceptions, the men were able to claim extra pay for effective labor over the eight hours. The vessel owners protested that this law placed them at a disavantage as compared with fishing vessels of other countries.

London.—One of the curious features of this extraordinary summer is that no mackeral harvest has been reaped by the fishermen, says a report from Southport. Usually shoals of mackeral are caught in September, but only a few hundred had been landed this year. Cold weather is blamed for the non-appearance of the mackeral.

Sun, Moon and Herring

According to Prof. O. Petterson, herring attains a maximum abundance in the North Sea at intervals of 111 years. The schools wax and wane over periods of years. From 1875 to 1896, they were so abundant that factories were established to convert them into fertilizers. Prof. Lyingman thought the years of "miraculous fishing" which occurs every 111 years, were due to sun spots, but Prof. Petterson says this periodical variation is due to the moon in conjunction with declination of the sun, caosing unusual states of tide.

ALL KINDS

Orator: "I want reform! I want reform! I want reform! I want labor reform! I want government reform! I want—"

Voice in crowd: "Chloroform!"

Bluenose Once More the Champion

Tremendous interest in this year's races off Gloucestor — Captain Walter offers a real race to the Mawflower.

(Written for Canadian Fisherman)

The international fisherman's race for 1922 is now a thing of the past, and the Bluenose of Lunenburg, champion for 1921, still retains the trophy which is emblematic of supremacy among North Atlantic fishing vessels. The races off Gloucester (Mass) between the Bluenose and the U. S. Contender, the Henry Ford of Gloucester, between October 21 and October 26 carried no end of thrills and excitement. The comment of the American press on the events varies greatly. Some papers accuse the international committee of bungling and intimate that ill-feeling is being bred, while others saw in the apparent confusion a deepening and broadening of interest in the meet, and predicted that it would within a few years absolutely displace the American Cup Races (by yachts) as the premier international sporting event.



The Victor "Bluenose" and her Skipper

In this last view your correspondent wholeheartedly concurs. While serious mistakes were undoubtedly made in the management of the race this year, they were magnified many times, not by their inherent importance, but by the publicity they were given. Across the entire continent the public was interested in the races. In the three years the races have been run the attention they have attracted has broadened universally. There is positively no danger of ill-feeling being bred between Gloucester and Nova Scotia. There is, as there always has been, a good-natured rivalry, and this is just what everyone hopes will continue. The object of the deed of gift was to develop an improved type of fishermen and the number of excellent schooners that have laid down on both sides of the international line since 1920 is undeniably indicative that the races have served a useful and practical purpose.

The cause of the trouble

Much of the dissatisfaction created by the year's event is attributed to the fact that a bona fide fisherman in the United States and a bona fide fisherman in Canada are not the same. In the former instance the schooners fish and do nothing else. The Canadians, on the other hand, are salt fishermen and when not actually engaged on the banks, must serve as cargo carriers in order to make a profit for their owners.

There were rumors about Halifax during the last week that W. J. Roue, designer of the champion Bluenose, was the keystone of an organization to build a fresh fisherman and operate it from Halifax. There are some who see great possibilities for a fresh fishing fleet out of Halifax and there is room for optimism as to the success of the project. It is said that Mr. Roue believes he can build a fishermen of the Bluenose type which can clip the Bluenose's time over the regular forty-mile course by fifteen minutes. This may be possible by sacrificing cargo space and only by putting such a schooner on a fresh fishing basis could it be made profitable. To go to the banks for a few months during the season and remain idle the balance of the year would hardly be profitable and there is grave doubt that under the circumstances it could be considered a bona fide fisherman from the angle of being economically practical.

The Boston fisherman Mayflower had challenged the winner of the international events to a contest with a side bet of ten thousand dollars. It is fortunate that Captain Angus Walters saw fit to turn down the proposition. Such a race, as you have said in your columns before, could serve no good purpose, as it has been offi-

cially stated the Mayflower is not a bona fide fishermen. In fact few Americans will deny that the Mayflower was built for the sole purpose of capturing the international trophy and purses.

Walters Gets Caustic

Captain Larkin of the Mayflower, endeavoring to arrange a race with the Bluenose, intimated that Walters had been twice beaten by the Ford and that he was afraid to run a fifth race, provoking the following ironic reply from the Lunemburg skipper:

"For two years the master and owners of the Mayflower have been studiously ignoring our offer to race the Bluenose against the Mayflower for a side bet of $10,000, vessels to sail from Newfoundland to the West Indies, with equal cargoes of fish, discharge, proceed to Turk's Island, load equal cargo of salt, and return to Newfoundland. We have never sought a race with the Mayflower; the seeking has been all on your side. You contend that the Mayflower is a bona fide fishing schooner, capable of doing what the Bluenose can do and going where the Bluenose can go. If you are still of this opinion, we suggest that, instead of writing the sort of wires received by me today, you recognize that our share of the side bet. I have mentioned has been lying here ignored since last year. You say the Bluenose was twice beaten by the Henry Ford. My only reply to that is, if the performances of the Ford meet your idea of what a fishing schooner should do in a twenty knot breeze, I suggest you race the Ford and forget all about the Bluenose, a vessel, by the way, that can win from the Henry Ford any time a fishermen's chance offers. But if you are looking for a race with a real working fisherman, in real fishermen's weather, over the sort fo triangular course fishermen believe in and work on, then the side bet you have ignored for two years is here for your taking any time you care to take it. Let us stick to the original proposition of 1921, the proposition that appeals to fishermen with red blood in them. After that is disposed of, and if you are still as keenly interested as you appear to be now, we will consider your Hollywood proposition.

"Congratulations on your new title, 'Master of Mayflower, undisputed champion schooner of the world.' You will be able to add 'fishing' to it after you have won the fishermen's race we offer you.

"ANGUS WALTERS,

"Master Schooner Bluenose,
"Champion North Atlantic Fishing Fleets."

U. S. Elimination Races

The Henry Ford had little trouble to win the honor of contesting the cup as United States representative, defeating the Yankee of Boston, L. A. Dunton, also of Boston and the Elizabeth Howard of New York. In both elimination races the Ford showed that she was the best of the aspirants, although the Howard may have given her serious opposition in the second race had she not been put out of the running by a broken trestle tree which unstepped her main topmast.

The Final Events

The rivals, the Bluenose, Captain Angus Walters, and the Ford, Captain Clayton Morrissey, first met on the course Saturday, October 21. Unfortunately both vessels made a false start, and though they both went over the course, the race committee declared it 'no race'. The Ford demonstrated her undoubted superiority in light airs and crossed the finish line thirteen minutes ahead of the Bluenose.

An unfortunate situation arose over the 'no race' ruling and, according to press reports, the Ford skipper threatened to withdraw. However he was eventually prevailed upon by Secretary Denby and the wife of a part owner to resume the contest and regard the affair in a sportsmanlike light.

First Official Race

Before the first trip over the course and also before the first official race the Ford was obliged to reduce her sail area to comply with the provisions of the deed of gift.

When the racers crossed the line together the wind was favorable to the Ford. The latter took the lead at once and maintained in throughout the course. The details of the race and the manner in which the vessels were handled have been dwelt upon in the daily press and need not be repeated. The Ford crossed the finish line 2 mins and 26 seconds ahead of the Bluenose. Then official time at the different marks was as follows:

Start	11.00.00
Henry Ford	11.00.04
Bluenose	11.00.04
	First Mark
Ford	11.25.15
Bluenose	11.25.55
	Second Mark
Ford	1.37.06
Bluenose	1.40.00
	Third Mark
Ford	2.29.01
Bluenose	2.31.06
	Fourth Mark
Ford	3.25.12
Bluenose	3.29.57
	Finish
Ford	4.01.34
Bluenose	4.04.00

Although not generally known, this race, too, was under protest, Captain Walters having filed official notice that on account of being aground at dock his vessel may have received serious damage.

Second Official Race

The third race, second official, was pulled off on Oct. 25.—Sailing a hair raising race from start to finish, Captain Angus Walters in his doughty Canadian defender Bluenose defeated Captain "Clayte" Morrissey and the American challenger Henry Ford, by a margin of seven minutes, twenty-three seconds. It demonstrated officially that the defender is a faster vessel than the challenger on the wind in anything but a lady's breeze. It demonstrated unofficially that the Bluenose is slightly faster off the wind under similar conditions, despite the times taken by the official timers, after the Lunenburg schooner had sewn up the race.

"Clayte" Morrissey stated after the race, that Bluenose was too much for him in the weather conditions offering, the wind varying between eight and eighteen knots, and Angus was disposed to agree with him. Each had congratulations for the other on the sailing of a wonderfully fine race.

Third Official Race

The Bluenose retained the cup by her second defeat of the Ford on October 26 and although protest was made, it was officially decided that the Bluenose had been the winner of the series.

A stiff breeze early in the morning gave promise of a fast race. For various reasons the start was delayed until 11 o'clock. The Bluenose beat the Ford nearly half a minute across the line and finished seven minutes and fifty-one seconds in the lead. Official time at the different marks follows:

	Start
Bluenose	11.01.09
Ford	11.01.36
	First Mark
Bluenose	11.26.23
Ford	11.27.29
	Second Mark
Bluenose	12.27.56
Ford	12.28.34
	Third Mark
Bluenose	1.21.32
Ford	1.22.03
	Fourth Mark
Bluenose	3.24.40
Ford	3.32.45
	Finish

Bluenose 7 mins 51 secs ahead of Ford.

Unfortunate Sequel

An unfortunate sequel to the thrilling events was the death of Bert Demon, one of the crew of the Bluenose, whose body was found in the water at Gloucester. A jury found that death was accidental. The Canadian Government Cruiser Patriot was ordered by Premier King to convey the body to Lunenburg and it was accompanied there by Captain Walters and H. R. Silver, Halifax, chairman of the trustees of the fisherman trophy.

The crew of the destroyer stood at attention while the casket, draped with the British ensign, was borne ashore by eight of the Patriot sailors. It was received from them by eight members of the Bluenose crew and placed in a waiting hearse. All flags in Lunenburg were at half staff and the fishing town displayed the deepest sorrow. The people, so proud of the conquering Bluenose and her crew were robbed of the pleasure of their victory by Demon's death. To his family the deepest sympathy is extended. And the loss is not only domestic as Lunenburg loses a most capable skipper.

How Schooners Compared

Sch. Bluenose of Lunenburg, N. S., Capt. Angus Walters, holder and defender of the Trophy emblematic of the sailing championship of the North Atlantic. Owned by A. Zwicker & Co. Built at Lunenburg, N. S., in 1921, by Smith & Rhuland. Launched March 26, 1921. Designed by W. J. Roue of Halifax. Measures 141 feet overall, 27 feet beam and 11 feet, 6 inches in depth. Spreads 10,937 square feet of canvas.

Sch. Henry Ford of Gloucester, Capt. Clayton Morrissey, challenger for the International trophy. Owned by Capt Morrissey and others. Built at Essex in 1922 by Arthur D. Story. Launched in April, 1922. Designed by Thomas F. McManus of Boston. Measures 137 feet overall, 25 feet beam and 12 feet in depth. Spreads about 9700 square feet of canvas.

It is stated that before another international race is sailed, some changes will have been made in the deed of gift. Within a short time, it is expected that a measurement recommendation by W. J. Roue of Halifax, designer of the Bluenose, will be acted on so that construction of new vessels may proceed and be eligible for the International trophy. This recommendation will come as a result of a conference with W. Starling Burgess and Thomas F. McManus, leading American fishing vessel designers.

National Fish Day is Becoming Popular

In important fish centres throughout the country National Fish Day was particularly successful. An indication that the affair is being taken hold of by the public occurred in Montreal. Certain prominent visitors to the city were being entertained by a local club on October 31 and the chief item on the menu was fish. The presiding officer drew attention to National Fish Day and spoke at some length on the significance of the occasion. The co-operation was entirely unsolicited on the part of the Canadian Fisheries Association, and it is gratifying evidence that the impression we have been endeavoring to make upon the public is meeting with response.

In Montreal the members of the Canadian Fisheries Association co-operated in street car and newspaper advertising and other publicity schemes.

In Vancouver the celebration was of a public nature and fish sales are said to have been greater than on any previous National Fish Day. A. L. Hager, president of the national organization, addressed the Rotary Club at a fish dinner and, of course, he spoke on his favorite topic. A special member was included among the Rotary songs, as follows:

(To the tune of 'School Days')
Fish days, fish days,
More Al Hager fish days,
Hal-i-but, salmon and big black cod
Caught with a net or a line and rod
Many a salmon's laughing yet, to
Think how she dodged a "Lipsett" net, she
Went on up stream, and now, you bet
There's MILLIONS and MILLIONS of kids.

At Prince Rupert, the northern B. C. metropolis, the day was equally successful. The public celebration of the occasion culminated in a banquet in the evening, attended by a large number of prominent citizens. John Dybhavn, president of the local branch of the association, occupied the chair. The speakers included Mr. Dybhaven, Fred Stork, M. P. and J. W. Nicholls. Among the matters discussed were the heavy taxation burden on the salmon industry, the effect of the U. S. tariff of two cents a pound on halibut, direct exportation from the port of Prince Rupert, and the pospecting for fat herring to establish that fishery commercially.

And Spoon?

Gentleman escorting lady (to roadhouse proprietor): Have you any good mush-rooms?

Proprietor: Waiter, show this gentlemen to one of our private dining rooms.

What's to be Done to Sell More Fish?

Some systematic programme must be followed if fishing industry is to take full advantage of opportunity offered by domestic market.

(By JAS. H. CONLON)

How to sell more fish and sell it with profit is a question that is engaging the serious attention of the fishing industry in Great Britain. I refer to the sale of fresh fish in the home market. The reason why the problem is so urgently seeking solution at this time is that the producing interests cannot much longer stand a profit report represented by a cipher or a substantial figure preceded by a minus sign. For the past two years, it is said, producers on an average have barely made enough to cover expenses. Many of the export markets have been cut off because of the chaotic exchange situation and, spurred by necessity, these markets have been producing on their own behalf or have begun purchasing from energetic countries with available supplies but previously unable to compete, who are in a much more favorable position than Britain as regards exchange. Thus there is the danger that the old markets will never be reetored in toto and fish which previously went into export must be consumed at home if fishing equipment in which millions of capital are tied up, is not to remain inactive and non-productive. It is realized that the development of the home market affords the brightest opportunity and this despite the fact that the population is now consuming at the rate of fifty-six pounds of fish per capita.

In no respect does the situation in Canada differ from that in Great Britain except that it is less serious and that we have means of overcoming the difficulty which are not available to the same extent in the old country. The new American tariff threatens a large portion of our export business, while we suffer equally with Britain as regards exchange. We have the home market as a means of escape from the dilemma. While we have not the density of population Britain has, neither have we as great an amount of capital invested in production equipment. Even our population is sparse and scattered, our opportunity lies in the fact that our people today are eating only twenty pounds per capita where the Britisher is consuming fifty-six. That is a strong advantage and suggests a field of expansion which all departments of our industry are ignoring with striking unconcern. Furthermore we have comparatively good railway service though troubled by high transportation charges. Under present conditions the latter may be remedied only through the handling of increased quantities and deriving the benefit of carload rates.

What Is Proposed In Britain

Our statistics prove conclusively that the domestic market offers an unusually fine opportunity for trade expansion, one which should inspire the keenest optimism in comparison with what the trade is proposing to undertake in the old country. There is a strong movement on foot there to institute a national advertising campagin to stimulate public demand and also, which seems a necessary adjunct to such an enterprise, some form of co-operation to maintain reasonable stability in retail prices.

An anonymous writer, contributing both to the Fish Trades Gazette of London and the Fishing News of Glasgow offers suggestions which, if not altogether practicable in this country, are at least extremely interesting and may be means of indicating a feasible course of action to achieve the object in view.

He says that it would seem to stand forth very obviously that at times the average household does not consume fish in sufficient quantities. Three reasons occur:—

(1) Either fish is not regularly desired or required, or

(2) It cannot be readily obtanied, or
(3) It cannot be obtained reasonably.

"Just recently there has been collective advertising to popularise home-grown, or rather British-grown, vegetables, the sum of £12,000 being suggested as advertising expenditure.

"To some members of our trade, perhaps to many, the suggestion for an advertising expenditure involving many thousand pounds at the present juncture may seem like so much stark lunacy, but we are told by all prominent advertisers that when trade is bad and money tight, then is the time to open or extend an advertising campaign, and more especially if the advertising is for the purpose of indicating how economies in purchasing may be effected.

"With reduced expenses and wages the present cost of running a modern steam trawler for twelve months may be somewhere between £8000 or £10,000, so that surely if £10 per vessel were set aside for collective advertising the expenditure per ship would hardly be felt; yet, if there were 2,000 steam fishing vessels contributing this £10 amount per annum the sum of £20,000 would be available for collective advertising of the fish trade.

Stimulate the Demand

"The advertising would be mainly for the purpose of stimulating the demand for fish.

"The stimulating of demand automatically means the building up and strengthening of the wholesale and retail means of supplying to the eventual consumer, therefore a benefit conferred upon the distributing branches of the fish trade, through advertising conducted firstly by the steam trawler owners, would perhaps call later for a "quid pro quo" from the wholesale and retail distributing branches of the fishing industry, which assistance might take the form of agreeableness to offer fish to the public at prices varied from day to day on a basis carefully arrived at by the experts of the producing and distributing branches of the industry, the daily variation of prices to be made by a

duly appointed committee or staff, and the prices list published broadcast daily by the Press Association.

"Any article offered to the public nowadays must, to ensure a ready and regular demand, be priced reasonably in relation to costs of production and distribution, and in the case of fish, where price fluctuations are many and violent, there must be accompanying the advertising a means of publishing the correct variation of prices from day to day, always providing that the prices published allow for the cost of production plus reasonable average distribution charges, as it would be an economic fallacy to advertise to the public that fish, during periods of temporary slump, could be obtained at a price per lb. which would not remunerate the catcher let alone the distributor."

The writer states that accountants dealing with the books of wholesale and retail distributors agree that 100 percent is required to be added to the price realized for fish at the port of landing before the distributors' expenses are provided for, which means that fish offering for a certain price at point of landing should be offered at one hundred percent advance retail, as a basis of general advertisement to the public.

Then again, he says, arises the question of the proportion of weight which each of the varieties bears to the total quantity handled by the wholesale or retail distributor. If the trade done were entirely in prime or selected stock the 100 percent increase would net a handsome return, but the same percentage return on cheaper varieties would be totally inadequate in comparison. He, therefore, suggests that instead of a general jump of 100 percent, it should be lessened as the value of the fish increased and proportionately increased as the value diminished, thus attaining a general average of 100 percent. In publishing prices they would, of course, be dependent upon the price at the point of landing on the date in question.

In the first place, however, the actual cost of landing must be ascertained as a basis by careful calculation from the catches of different boats and the proportion of different varieties in relation to the whole. Of necessity this basis must be adjusted at specific periods according to whether the cost of production increases or diminishes.

We Really Have No System

The present system of marketing fish in Canada makes the business more or less of a gamble and, because of extremely keen competition, there is a rivalry which is not altogether wholesome. Legitimate competition is desirable and healthy, but when price-cutting reaches the extent of doing business without a profit it is not human nature that those engaged in the practice should bear a deep-rooted friendship for one another. Producers and distributors, both wholesale and retail, would, I think, welcome some system of co-operation which would eliminate financial precariousness and open up bigger opportunities. The present day order of things is not a system, it is a rut, and the sooner it is abandoned for a plan that is a system, the sooner may we expect improved conditions and a more congenial atmosphere in the industry.

Today about ninety percent of our sea fish is going to a few centres which could be counted on the fingers of two hands, for distribution within a small radius about these places. Producers and fish brokers are battling to get this business with the result that nothing is being done to open up a broader market. Of course these established markets require no pioneer work and no individual firm feels disposed to spend money pioneering to have others jump in and share the reward when there is any reward yielded. That is the crux of the whole situation and until there is some scheme of practical co-operation devised there can be no reasonable or logical expectation of increased local demand. If fish cannot be readily obtained people won't buy it; if the supply is not continuous people will not buy regularly. But if you educate people, through advertising, to eat fish and then make a supply available regularly and at a reasonable price, there is no reason in the world why consumption of fish in Canada should not increase three hundred per cent. But a more general scheme of distribution, as I have said, is essential. When that has been brought about co-operatively then there will be left only that healthy competition which stimulates good service and guarantees the public a good commodity and the industry a reasonable return on the money and energy it expends.

More Fish and Much Bigger Revenue

Weather conditions were favourable for fishing on the Atlantic Coast during the month of September and during the first half of the month on the Pacific Coast, with the result that larger catches of fish were landed. The total quantity of sea fish landed on both coasts during the month was 1,317, 935 cwts. with a value to the fishermen of $2,906,527., while during September 1921 there were 1,026,553 cwts. landed valued at $2,520,-047.

The catch of cod, haddock, hake and pollock during the month was 778,379 cwts., compared with 653,889 cwts. in the same period last year. The Lunenburg banking fleet arrived during the month from the Grand Banks with a good catch. There were 57,789 cwts. of hake taken compared with 19,998 cwts. in September, 1921. There were 17,129 cwts. of mackerel taken compared with 9,742 cwts. This brings the total catch for the season up to 220,280 cwts. compared with 126,426 cwts. last season.

The catch of lobsters during the month was 13,519 cwts. compared with 16,753 cwts. in September, 1921. Since the opening of the season in November last 345,217 cwts. have been taken of which 63,595 cwts. were used fresh and the remainder canned, making 140,786 cases. In the same period in the preceding year there were 332,446 cwts. taken from which 86,323 cwts. were used fresh and the remainder canned, making 123,515 cases.

There was a large catch of herring during the month, 160,789 cwts. being taken compared with 64,383 cwts. in September, 1921. The bulk of the catch was taken around Grand Manan Island.

On the Pacific Coast the catch of halibut was slightly less.

The run of British Columbia salmon was very good, and resulted in a much larger catch during the month. There were 196,339 cases packed compared with 62,585 cases in September, 1921.

News Notes from Far and Near

The succesful transplantation of plaice from poor to rich feeding grounds in the North Sea, by the marine biologists of the Ministry of Agriculture and Fisheries, has been extended in principle over an infinitely wider range, embracing the experimental introduction of European herrings, turbots, crabs and lobsters to New Zealand waters, a distance of 12,000 miles.

$650,000 Seal Pelts Auctioned

Sale of 17,195 Government seal skins by the Fouke Fur Company at St. Louis Oct 9 brought $650,000. It was the largest amount of skins ever sold for the Government at one time, it was said. The range was from $7.50 to $62 a pelt, the prices being about the same as those of last April's sale, when $500,000 worth of skins was sold for the Government.

Reducing Oyster Waste

London Daily Chronicle: A scientist, attached to the Fisheries Board, has discovered that by breeding oysters in huge concrete tanks the stupendous waste of baby oyster-life is reduced from two survivors in the million to several hundred thousand. Commercial firms are taking the matter up. Tanks are being erected, and the results will shortly manifest themselves in the fishmongers' price-list. Truly an epochmaking discovery.

Rowed Eighty Miles

Exhausted and hardly able to get out of the dory in which they had sailed and rowed about eighty miles, the five members of the crew of the Gloucester fishing vessel Marshal Foch, wrecked on Sable Island in early October, who were missing for nearly two days, landed at Larry's River. They were brought to Canso and later forwarded to their homes.

$1 Extra for Good Care

The trip of Cape Breton mackerel of sch. Catherine Burke, Capt. Lemuel Firth, consisting of 40 barrels, sold to the Consumer Fish Co. at $36 per barrel to be packed. The fish were rimmed, large fat, and of an extra good color. For the good care of the fish the crew received $1 per bbls. more than the last sale. — Gloucester Times

Sold to Americans

The Lunenburg knockabout schooner Alcala, recognized as one of the fastest and finest speciments of Nova Scotia fishing vessel, has been sold to American interests, it is announced. It is understood that she will be withdrawn from fishing banks. The Alcala sailed by Captain Roland Knicle, finished third in the Nova Scotia schooners of 1920 and 1921, establishing a superiority over the other non-bowsprits vessels of the Province fleet.

St. John's, Nfld., October 27,—Twenty-two men were lost, with 26 dories, from a Portuguese fishing vessel (name unknown), during the North Atlantic gale in early October, according to the French steam trawler Fleurus, arriving at St John's Newfoundland from the Grand Banks. The trawler stated that the news reached her indirectly. The Portuguese vessel, it was stated, remained on the fishing grounds for several days in the hope of finding at least some of the missing men, but finally gave up the search and made for Portugal with barely enough crew to work the vessel back.

Newfoundland High Liner

The Newfoundlander Marian Belle Wolfe this year was high liner of the Lunenburg county fleet, with a total catch of 6,500 quintals, Captain Thornhill broke all records as a fishkiller, both for Newfoundland and Nova Scotia. His crew was composed of men from Grand Bank and vicinity. He works and shares on the count system, which means the more fish any boat crew catches the more they share. There was a difference of over 6,000 fish between the high and low boat which made a difference in the shares.

Unfrozen Fish Preserved One month

In connection with the Marseilles Colonial Exhibition a National Congress of Sea Fisheries was held last month, and had a sub-section devoted to refrigeration. M. Lescarde communicated the results, so far as they go, of experiments in the cold storage of fish, which he has been and is still carrying on at Ostend. Their interest lies in the fact that he has the fish merely cooled at 0 deg. C. without freezing. By his method fish has been preserved for a month, and the results of further experiments are awaited with interest. — Cold Storage.

Investigating Canning Problems

Research work that may result in discoveries of great value to commerce is being done at McGill University by three women graduates. Conditions affecting the canning and the pulp and paper industries form the subject of their investigations, and if attended with success thousands of dollars will be saved annually in these industries.

Miss J. Symons, demonstrator at McGill, is engaged in trying to solve a problem which has been causing much worry to canning firms. When clams are canned they often turn to an inky blackness. This process is not confined to clams, but has also been observed in other canned products, and is very manifest in the case of lobsters. Miss Symons is working on bacteria that is associated with this blackening process in the case of clams. She began her expriments at the Biological Station at St. Andrew's, New Brunswick, and about a year ago she published a preliminary paper on the subject when she took her Master of Science degree.

Fish Warehouse Burned

Damage estimated at $15,000 was caused by a fire which wiped out the fish warehouse of L. L. Bellefontaine, Eastern Harbor, N. S. on October 13.

New Schooner Launched

Wm. MacMillans new schooner, the Tessa Aubrey, was successfully launched from the shipyard at Allendale N. S. the latter past of October. She is now at Shelburne where she will be sparred and rigged. This winter she will engage in fishing from Lockeport.

13 Years a Fisherman

Marcus Aurelius Hitchcock of Sarnia, Ont. on October 13 celebrated his 82nd birthday and the 73rd gear of his notable career as fisherman on Lake Huron "Old Marc" as he is familiarly termed, has never missed a season on the lake since he was nine years old; has saved 14 people from drowning; was a champion figure skater, and states that he will be on the ice again this winter.

Heavy Exchange of Fish Eggs

More than 1,112,000 fish eggs of the different species were collected by the hatcheries branch of the Department of Marine and Fisheries during 1921, according to a report made by the Deputy Minister of Fisheries to Hon. Ernest Lapointe. In Addition to the eggs collected by the department, 600,000 rainbow trout eggs and 980,000 speckled trout eggs were purchased from commercial firms; 507,000 rainbow trout eggs 200,000 cutthroat trout eggs 800,000 speckled trout eggs, and 85,000 brown trout eggs were received from federal and state departments of the United States in exchange for Atlantic salmon eggs.

Under an arrangement with the Department of Game and fisheries, concurred in by the federal Department of Fisheries, the officers of the federal hatchery at Cape Vincent, N.Y., collected whitefish and Lake herring eggs in Canadian waters on the Ontario side of the international boundary line. These eggs were placed in the Kingsville hatchery. The federal department is also indebted to the Ontario Department of game and Fisheries for 18,750,000 pickerel eggs collected in Hay Bay, Bay of Quinte. These eggs were placed in the Thurlow hatchery and a portion of the resulting fry were placed at the disposal of the provincial department for stocking waters that are not as readily accessible from its own hatcheries.

A surplus collection of 1,568,000 salmon trout eggs, included in the above statement of federal collections from the hatchery at Wiarton was turned over to the provincial hatchery at Sault Ste. Marie.

Two Record Fish

Two record fish were caught in the 1922 Winchester Fishing contest. O. C. Donehey of Estis, Fla., caught a large mouth bass weighing 18 pounds 8 ounces, measuring 33 inches in length and 28 inches in girth in Lake Sarpentine, Fla., the largest bass ever caught and W. W. Reynolds of Driggs., Idaho, brought in a brown trout that weighed 10½ pounds, was 28 inches. in length and 17 inches in girth- the largest brown trout on record.

English Trawlers at Sydney

There is a possibility that next summer Sydney, N.S. may become a base of supply for a fleet of English trawlers. A Hull firm last year sent out two trawlers to try their luck cod fishing on the Grand Banks and they succeeded in some 7 weeks' fishing in securing about 200 tons of cod. The expansion of such undertaking depends on the report of the two captains who have expressed themselves optimistically. Should the scheme materialize additional trawlers will be sent and accommodation for storage provided at Sydney.

Fishery Laws Violated

Following the close of the salmon fishing season fishery officials on the north shore of New Brunswick have been engaged in attempts to trace large quantities of salmon which have been taken illegally and shipped in wholesale quantities to various dealers throughout the province.

Already two large consignments of salmon have been seized and every effort is being made to trace the shippers in these cases. A shipment is reported as having been made recently from districts along the Miramichi in which the fish have been packed in pork labels. A large consignment, which was seized in St. John, is said to have contained almost two tons of fish, while a local seizure made here resulted in over 100 pounds being taken.

Nesting Sea Birds Attract Tourists

The many thousands of snow-white Gannets, dark Cormorants, graceful Gulls and other strange seabirds that inhabit the bird sanctuary at Percé Rock and Bonaventure island on the southern shore of the Gaspé peninsula, in Quebec, are attracting increasing numbers of visitors each year according to the report furnished by the Chief Federal Migratory Bird Officer for the district to the Commissioner of Canadian National Parks. During the season just closed 767 guests registered at Percé's two hotels and it is estimated that these visitors spent upwards of $16,000 for hotel accommodation, boat and motor hire, etc. Incidentally this does not take into account the many transient visitors who come to watch the myriads of nesting sea-birds along the coast.

Fishermen Suffer Heavy Loss

Sydney, N. S., Nov. 7—Damage amounting to many thousands of dollars was suffered by northshore fishermen during the violent gales of last week, according to advices reaching this city from isolated points. Nine gasoline fishing craft were reported washed away. These were lost at Wreck Cove, along with boathouses owned by John Donaghue, Joseph T. Burton and John W. Capstick. While working in the latter house. John Capstick and his brother Thomas were caught by a huge comber, which drove them through the rear of the building and left them stranded in a pool beyond. A third man, John Kanary, who saw the big wave coming, saved himself a ducking by grasping a rope and hauling himself up to the rafters. Hugh McEachern, Paul McLean and Simon McLean owned the motor boat lost at Wreck Cove.

At Ingonish the old government pier, repaired this summer, was totally destroyed and Joseph R. McNeil lost his boathouse.

Trade Makes Remarkable Recovery

One-half of loss sustained in 1921 is recovered—1922 may be the best normal year in the history of industry.

As was quite conclusively demonstrated by statistics published in the last issue of the "Canadian Fisherman", the year 1921 was an extremely unfortunate one for the fishing industry. The feeling of confidence and optimism which prevails at the present time, however, tells the story of better times and this is borne out by statistics from the Department of Marine and Fisheries, Ottawa, covering the first nine months of 1922. With the single exception of halibut the catches have all been heavier than during the corresponding period of last year and the revenue has been proportionately increased.

Statistics published in these columns last month indicated a thirty percent slump in the marketed value of fish for the year 1921 in comparison with 1920. Statistics for nine months of the current year show an increase in value landed, of eighteen percent in comparison with the same stretch of 1921. In marketed value the percentage of gain would be greater, so that it is safe to say that one half the loss sustained in 1921 has been recuperated.

The percentage loss last year was thirty, which means that a gain of about forty-three percent must be made on the 1921 figures to again attain the level of 1920. But we are recovering rapidly and with continued good fortune during the last months of the year, it would not be surprising if the industry this year would yield around $42,000,000. This, of course, will not approach the revenue of the latter war years and the period of post-war inflation, but the fact which attracts attention is that the upgrade movement has started. The year 1918 was the most prosperous the industry ever experienced and since then the revenue has been declining, with the greatest and most serious slump last year. This year we are making a mighty comeback. Rock bottom has been reached and it was reached with such a thud that we have rebounded into comparative affluence. With the exception of the very abonrmal years of 1917, 1918, 1919 and 1920, the year 1922 will, we expect, produce a record total. In normal trade these four years cannot be taken into consideration. The trade was stimulated by unusual demand and unusual prices. We may be said to be back to normal again, so that actually 1922 may be a record normal year.

Lean Years Have Passed

It is not designed here to delude anyone that the years of plenty are returning, but facts prove that the lean years have passed. If we cannot live in luxury we may be assured of moderate comfort and that is much more than could have been said honestly a year ago.

The one disturbing factor in the entire situation is the possible adverse influence of the new American tariff. It is the belief of the writer that while the market in the United States may be temporarily dislocated there is no danger of losing it permanently to any serious extent, but during the period of adjustment, until prices in the United States attain the new tariff level, there is bound to be some loss. Very fortunately National Fish Day came at an opportune time and it may have served the purpose of stimulating local demand more or less permanently. It is markedly noticeable, too, that fish dealers, especially in the larger centres, are showing an inclination to advertise more. This is bound to produce results and the only regrettable thing is the apparent difficulty to extend various local advertising campaigns into a great national movement.

The following statistics are of no little value and should be encouraging.

Summary of the quantities and values of sea fish caught and landed in fresh or green state for nine months ended September 30, 1922.

Kinds of Fish		Quantity	Value	Totals for the nine months ended Sept. 30, 1921. Quantity	Value
Cod	Cwts	2,107,208	$4,008,372	1,592,828	$2,089,843
Black Cod	"	3,886	18,021	7,103	29,764
Red and Rock Cod	"	1,356	5,812	1,188	5,527
Haddock	"	219,051	351,486	179,211	302,757
Hake and Cusk	"	246,827	178,649	93,041	64,196
Pollock	"	139,946	113,941	111,244	93,541
Whiting	"	133	811	49	290
Halibut	"	228,744	2,043,259	272,782	2,655,734
Flounders, Brill, etc.	"	8,632	15,261	2,050	4,985
Skate	"	655	2,188	606	1,937
Soles	"	2,756	16,380	1,771	11,696
Herring	"	1,142,935	852,703	721,584	615,768
Mackerel	"	222,381	1,060,441	126,436	614,018
Sardines	Bbbls.	131,091	181,506	103,295	105,673
Pilchards	Cwts.	1,120	2,240	7,343	9,532
Alewives	"	53,828	58,690	17,150	27,945
Salmon	"	946,326	4,580,230	619,830	3,893,659
Shad	"	1,461	15,633	955	9,691
Smelts	"	55,171	352,255	47,597	444,039

Albacore	"	2,343	5,487	2,017	4,611
Caplin used as bait	Bbls.	7,586	11,258	7,280	3,770
Octopus	Cwts.	289	2,454	178	1,767
Oulachons	"	180	941	177	855
Squid, used as bait	Bbls.	6,066	10,4800	7,138	16,812
Swordfish	Cwts.	10,165	74,238	6,786	74,755
Tom Cod	"	5,135	5,132	9,953	14,103
Clams and Quahaugs	Bbls.	22,089	79,142	20,932	50,569
Scallops	"	6,851	29,934	3,947	25,197
Crabs	Cwts.	3,433	21,260	4,176	20,956
Lobsters	"	342,972	3,066,909	326,110	2,452,873
Oysters	Bbls.	1,578	9,075	821	5,421
Shrimps	Cwts.	281	3,916	511	7,405
Winkles	"	3,136	5,738	711	1,332
Cockles	"	181	452	177	522
Mussels	"	42	30	467	327
Catfish	"			6	12
Total value			$17,184,704		$14,561,882

Wants Dogfish Supply for Reduction Plant

At a recent meeting, the Board of Trade of Prince Rupert, B. C., adopted a resolution calling upon the federal government to pay a bonus to fishermen who took dogfish and sharks from the waters of the Pacific. George G. Bushby, general manager of the Rupert Marine Products Limited, which plans to use these fishes for the manufacture of various commodities, addressed the meeting and following are a few extracts from what he said:

"I presume that you all are aware of the nature of the plant which I am operating, and that you realize the usefulness of such a plant as a complement to the fishing industry, providing, as it does, the means of disposal of the waste which is inevitable in the fishing business, and in the disposal of that waste the reducing plant converts it into most useful and valuable products, namely, edible fish meal, suitable for supplying the protein element in the feed of domestic livestock such as poultry, swine and cattle, fertilizer, for the enrichment of the soil, especially as regards fruit and vegetable cultivation, and oil, indispensable in the tanning industry and also used in the soap and paint manufacture as well as in other branches of the arts and crafts.

"You will readily understand that, in order to make such a plant remunerative, it must be kept in practically continuous operation during the entire year, for when the steam cookers and dryers are allowed to cool considerable loss ensues. Under present circumstances the plant here operates under the disadvantage that when the salmon canning season closes the plant has only the waste from the halibut fishery to depend upon for raw material, a very insufficient supply in proportion to the capacity of the plant to absorb raw material.

"Any reduction plant operating in this province competing for business in a very close market, and the larger the output of the plant the keener the competition, for the reason that difficulty is generally experienced in finding ready buyers for large lots of goods, and the placing of such large lots upon the market always has a tendency to sag the market.

"Our market in Canada is extremely limited at the present time, for the consumer has not awakened to the advantages of utilizing our products as stock feed and fertilizer, but this market will grow in proportion to the knowledge which is dissemmated regarding the use of these commodities.

"Our market for oil is in the state of New Jersey, away on the Atlantic coast, in direct competition with the menheden and oher well established oil supplies. In this case we face a transcontinental freight rate of $1.05 per hundred, handling charges and a duty of 20 per cent ad valorem, and face keen competition into the bargain.

"Our market for edible fish meal and fertilizer, as regards at least 900 per cent of our sales is in the United States, with a coast-wise freight rate and a duty of 15 per cent ad valorem, and this market, not being very large, cannot absorb large shipments without feeling the effect and affecting the prices.

Raw Material

"Now, in order to operate continuously, we must have raw material. To operate successfully we must obtain our raw material at a price which will enable us to operate at a profit. We cannot pay a large price for raw material, we should not pay anything for it at all, and make a profit after paying cost of manufacture, overhead, handling charges, transportation and duty. If we cannot operate at a profit it would be foolish to operate at all upon a large scale, but we would cut down our staff to a minimum and content ourselves with taking care of the waste from the halibut fishery during the winter.

"The outstanding feature of this matter is that the permanent establishment of a successful industry devoted to the conversion of sharks and dogfish into useful commodities, will be the means of utilizing the natural resources of the particular locality concerned.

"In order to make possible the establishment of this industry and in order to develop the shark and dogfish fishery there must be assistance derived from the Dominion government, and I am, therefore, asking you to consider the advisability of approaching the Dominion government, through the proper channels, with the object of impressing upon it the necessity of offering a bonus to the fishermen for the destruction of shark and dogfish as a means of ridding the waters of these destructive pests and as a means of producing national wealth in the form of manufactured commodities, having as a base of raw material the carcasses of such shark and dogfish as may be destroyed under the bounty.

Must be General

"I am referring to all fishermen and all reduction plants, wherever situated, either on the Pacific or on the Atlantic. It would be a poor policy to ask the government to give special privilege to any one part of the country. This matter is not sectional but distinctly national.

"The winter is upon us and many of the fishermen who own small boats have begun to lay them up. Possibly some of them have the necessary savings upon which to live during the winter months and possibly many have nothing to live upon, but all must be in a position of facing the winter with feeling not unmixed with a certain amount of anxiety.

"Boats and gear depreciate rapidly when not in use, and the same applies to men. Work must be found for boats, gear and men, and please include the plant up the inlet when discussing this matter, for we have a heavy investment in machinery and employ a number of men.

"With a bounty and with what we can afford to pay for the fish there will result a very considerable amount of activity in the fishing part of the community, a fresh avenue of opportunity will be opened up, and, without a doubt, the experince of this winter will amply demonstrate that with a due amount of thought given to the means of handling the trade, a permanent addition will be made to the fishing occupation and a lucrative busines built up for all concerned."

(It is understood that the plant of the Repeil Marine Products Limited is prepared to handle fifty tons of fish per day and with additions to plant can take care of seventy-five tons a day.—Ed. C. F.).

Japs Work Together

At the hearing before the Royal Commission in Vancouver one of the white fishermen stated that the Japanese fishermen knew when the fish were running and they had some method of transmitting information to each other so that they fished in the best locations. He further stated that if the white fishermen would co-operate to better advantage in such things they would be able to be the high liners. Everyone wants to see British Columbia a white fishermen's country but co-operation is cetainly essential.

Packing More Chums

More chums are being packed by British Columbia canners this season than for several seasons past.

English Camouflage Salmon

Sockeye salmon have not been moved as fast as the packers would have liked owing to the holding off on the part of the buyers for what they hope will be a lower price. It may be that the canners opened at a higher price than may have been waranted but at the same time it is also to be remembered that in several cases canneries have been operated at a loss for two or three seasons past. It is also possible that it was bad judgement to have asked for prices that were so high the buyer would stop buying altogether. Then when some canners who may have been compelled to realize at once on their pack had to accept an offer much lower than the price other packers were holding at, created the feeling among the buyers that by holding out still longer they might get lower prices than they had hoped for. Another fact is to be remembered and that is that it is known that English handlers of salmon have been placing their sockeye brands (labels) on Kamchatka salmon, packed by Japanese, which they have been able to get at a much lower price than the genuine sockeye from British Columbia. This is a risky thing for the English firms to take a chance in as it is known that although the Kamchatka salmon is very similar to the British Columbia sockeye at the same time there has never yet been a salmon caught that can stand up beside a British Columbia sockeye and sooner or later these British firms will not have the standard maintained for the brand of salmon that they have taken so long to build up under their labels.

There is a fair demand for pinks and prices are being maintained for these reasonably-priced canned salmon.

DISPOSITION OF GROUNDFISH CATCHES

Following herewith is a summary of the quantities and values of the catches of cod, haddock, hake, cusk and pollock in Atlantic waters, together with an estimate of quantities marketed or intended to be marketed, fresh, dried, pickled, canned, etc., for the first nine months, 1922; and also comparative figures for the corresponding period of the preceding year.

Kinds of Fish	Nine Months 1922 Caught Fresh Quantity	Value $	Marketed Quantity	Nine Months 1921 Caught Fresh Quantity	Value $	Marketed Quantity
Cod ..Cwts.	2,107,208	4,008,372		1,592,828	2,089,843	
" used fresh .. "			105,445			89,109
" canned ..Cases			2,233			1,378
" green-salted ..Cwts.			129,866			159,860
" boneless .. "			725			
" smoked fillets .. "			9,900			4,768
" smoked .. "			3,951			1,756
" dried .. "			566,223			387,982
Haddock .. "	219,051	351,486		179,211	302,757	
" used fresh .. "			90,805			78,284
" canned ..Cases			5,182			2,994
" smoked ..Cwts.			29,431			23,839
" smoked fillets .. "			1			
" green-salted .. "			7,407			9,576
" dried .. "			15,416			9,757
Hake and Cusk .. "	246,827	178,649		93,041	64,196	
" used fresh .. "			27,109			4,721
" green-salted .. "			63,442			26,360
" smoked .. "						192
" smoked fillets .. "			799			985
" dried .. "			30,136			10,773
Pollock .. "	139,946	113,941		111,244	93,541	
" used fresh .. "			18,483			5,019
" green-salted .. "			32,845			19,856
" smoked fillets .. "			9			230
" dried .. "			18,577			21,936

Babcock Criticizes Fraser Report

The "Canadian Fisherman,"
Gardenvale, P. Q.
Gentlemen:

I enclose you herewith a copy of a letter addressed to the State Fisheries Board of Washington, in re condition in the canyon of the Fraser River above Yale, which replies to statements made in a report to that Board by Mr. W. H. Pugsley.

There has been so much misunderstanding as to conditions in this canyon that we will appreciate it if you will publish the enclosed letter.

Yours truly,

Jas. P. Babcock
Assistant to the Commissioner.

STUDIED SITUATION HIMSELF

Oct. 27th, 1922

State Fisheries Board,
Alaska Building,
Seattle, Wash.
Gentlemen:

I have the honour to acknowledge with thanks your favor of the 23rd inst. enclosing a copy of the "Report on Observation in the Fraser River," made to your Board by Mr. W. H. Pugsley. I very greatly appreciate being furnished with the copy.

Having made a close study of conditions in the Fraser River basin yearly since 1901, and having devoted many days each season during the salmon run to observing conditions in that rivers channel at Hell's Gate Canyan, I have read Mr. Pugsley's report with much interest. Mr Pugsley describes natural conditions there accurately, and I fully agree with him when he states that "the fish have little difficulty in negotiating the west of the rapids at Hell's Gate." I do not, however, agree with the statement "that the river's channel has never been cleaned out properly and that the upward migration of the fish is considerably hampered yet by the slide."

I had much to do with the removal of that slide and hold the opinion, and have many times stated officially that all the rock thrown into the channel just above Hell's Gate in 1913 has been removed and that conditions in that canyon today are as satisfactory as they were in the twelve years before the railroad was constructed. With few exceptions the salmon that have reached Hell's Gate since 1913, like those that reached there previously, have passed through that swift rapid by hugging the right or west wall. Few salmon can, or ever have, negiatiated the rapid on the left or east side, except at exceptional stages of water. The wall on the left bank is bedrock and not rock thrown into the channel. Photographs reproduced in the British Columbia Fisheries Report for 1913 and 1914 display conditions at Hell's Gate before during, and after 1913. They clearly show that the channel on the left bank is the same now as it was previous to the great slide. Salmon do and always have made attempts to pass up on the left side. During certain stages of water many have succeeded but in all years since 1901 the bulk of the run has only succeeded in passing up the right or west side.

Real Blockade in Rapids

At no time this year, or in any year since 1914 have salmon been seen in numbers in the channel a quarter of a mile below Hell's Gate rapid. If the run in any year since 1914 had been blocked by conditions at Hell's Gate the fish would have massed below the Gate, as they did in 1913 and been in view for a considerable distance below. At no time this year were salmon to be seen in numbers to exceed a hundred in the eddies immediately below Hell's Gate. Almost every day this year salmon were seen passing up on the left bank. In the great run of 1913, notwithstanding the blockade, vast numbers succeeded in passing above Hell's Gate every month during the run. The real blockade in 1913 was in the rapids in the channel above the mouth of Scuzzy Creek, some three and a half miles above Hell's Gate proper. If you will refer to the British Columbia Fisheries Report for 1913 you will find this clearly stated.

No other section in the Fraser River basin has been under such close observation as the Hell's Gate canyon. Conditions there during the salmon run have been under almost daily observation by one of the most careful fishery overseers, since 1913, and for the twelve years previous.

There has been no blockade since 1913 and no unusual assembly of fish in any of the eddies a short distance below the Gate. All the rocks thrown into the channel of the Fraser by the collapse of the tunnel at Hell's Gate and during construction, that in any way obstructed the upward migration of salmon, has been removed. Conditions in Hell's Gate canyon are as favorable to the passage of salmon as they were previous to 1913. Of this I am convinced.

As to the run of pink salmon in the Canyon. Previous to 1913 vast numbers of pink salmon passed through the rapids at Hell's Gate every second year. They run in the Fraser only every second year. 1913 was a pink salmon year and the usual numbers appeared in the Canyon at Hell's Gate that fall. Owing to the blockade none of this species were able to pass through. None were to be found in the wates above and none have been seen in those waters or at Hell's Gate any year since. Evidently the families of pink salmon that formerly spawned in such vast numbers in the Thompson and Nichola rivers and at Seton Lake were destroyed by the blockade of 1913.

Considering the publicity that has been given Mr. Pugsley's report a copy of this letter will be furnished the "Pacific Fisherman" and the "Canadian Fisherman."

Yours truly,

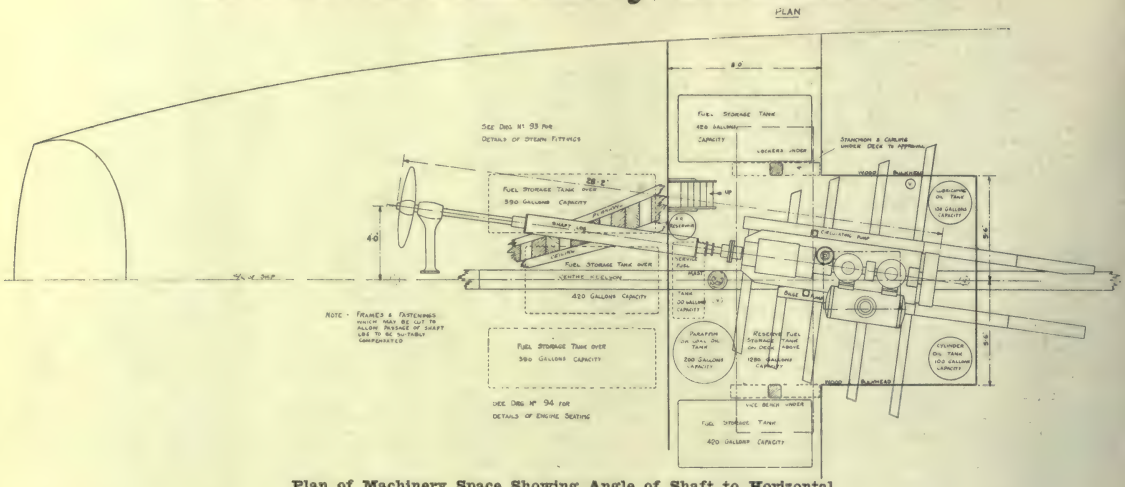
Assistant to the Commissioner.

U. S. STUDYING DANISH SEINE

Late in September, the "Carnegie," from Hono, Sweden, carrying a crew of six, including the captain, and equipped with the so-called Danish seine, entered the port of New York with the expectation of engaging in American fisheries. The vessel is 60 feet long, 21 feet beam, draft about 8 feet, and of 25 tons net tonnage.

As this afforded an exceptional opportunity for American fishermen to learn of the merits of this gear at relatively little expense, the Bureau of Fisheries, Washington, co-operating with the Bureau of Navigation, immediately interested itself in the case, endeavoring to secure the temporary waivure of the legal obstacles and afford interested fishing companies an opportunity to send out observers on trial trips. The assistant in charge of fishery industries proceeded to New York and Boston immediately to perfect the necessary arrangements. The details are being completed and observers will be afforded an opportunity to witness the operation of this gear, handled by men familiar with its use.

A Novel Auxiliary Installation



Plan of Machinery Space Showing Angle of Shaft to Horizontal

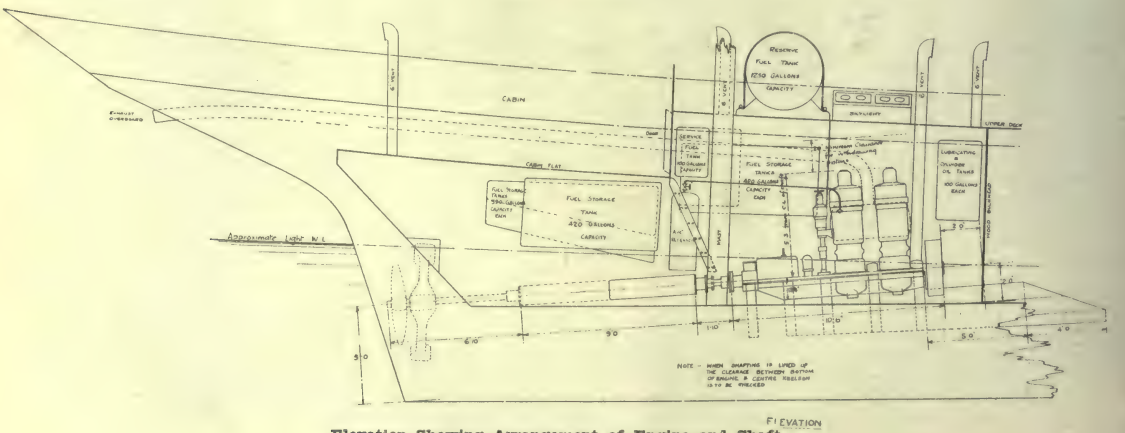
An installation of some interest has recently been carried out in the three masted schooner "Albert Revillon", owned by the Revillon Freres Trading Co., Limited.

This vessel was purchased in the spring for the purpose of conveying supplies to the company's various posts in the Hudson's Bay and Labrador. The period of open navigation in these parts being short, and winds fickle, a reliable auxiliary engine capable of giving the vessel a speed of at least 7 miles was necessary, and after some investigation it was decided to install a two-cylinder 90/100 B. H. P. reversing gear model "Densil" crude oil engine, which engine is made in Denmark and marketed in Canada by The Crude Oil Engine Co. of Canada, of which company Mr. Walter Lambert, the Montreal naval architect, is principal.

This engine operates on the well-known semi-Diesel or hot bulb principle, it being necessary to preheat a portion of the cylinder by a blow lamp for a few minutes. The initial impulse is given by compressed air, which is generated by the engine and stored in a small tank, after which the oil ignites without assistance by reason of the heat generated by compression in the cylinders.

This particular installation is somewhat out of the ordinary inasmuch as in order not to disturb the existing deadwood, sternpost and rudder, the shafting is led out at the side, so that the propeller is placed in about the same position as in the case of a twin screw installation, while the engine is about on the centre keelson, the shafting being given a horizontal as well as a vertical rake to suit it. At first sight it would seem that this transmission alignment would give a permanent turning moment, but as a matter of fact the vessel carries no helm whatsoever when going straight ahead.

Owing to owners' anxiety to place vessel in service with the minimum of delay, no formal trials were held, in fact the work was completed one day and a dock trial run, and vessel proceeded to sea the following morning at 6 a.m. We are advised, however, that a speed of 7½ knots was attained with a cargo of 300 tons aboard, while the fuel consumption was 6½ gallons per hour, at a cost of 12c. per gallon, which amply demonstrates that this type of engine is about the most economical marine prime mover obtainable for small vessels.—Canadian Shipping and Marine Engineering News.



ELEVATION

Elevation Showing Arrangement of Engine and Shaft

Sardine Herring Industry Needs Help

Plenty of fish this season but not profitable for fishermen to take it—Remedies suggested.

By THOMAS O'LEARY

The water was literally alive with fish. 'Twas nearly midnight and the tide was high when, recently, I accepted the invitation of a fisherman at St. John, N. B. to walk to the head of Sand Point Slip, where he promised to show me something of interest." On arriving at the edge of the pier, he pointed downwards, without comment, and there, under the rays of an arc-light, I saw the flashing of tiny forms, thousands of them, as sardine-herring incessantly darted about, with frequent jumping from the surface of the water.

Food in abundance was to be had, but not a boat moved. Fish were in by the millions, right up to the mooring posts of the fisher fleet, but no corks bobbed across the path of the school.

Not only in St. John Harbor, but all along the shore of St. John county, sardine-herring have been plentiful this year coming in wonderful floods of silvery-food-wealth, fresh and clean and most appetizing. And all the generosity of Nature has gone for naught, under the present system of demand.

Absolutely at the mercy of the American canners, the majority of St. John sardine-herring fishermen, have, since 1917, conducted their local and downshore operations with little or no gain; frequently there has been a big loss. The present season has been the poorest on record in recent years, having been characterized by several fishermen as a financial failure.

The price per hogshead this season has rarely exceeded $3 and since fishermen agree that to make the venture pay the price should be not less than $3 a hogshead, it is evident the industry has proved disastrous to those who this year depended on it for a livlihood. There was every opportunity for great catches throughout the season, but the market was constantly so poor that many owners of weir privileges did not put up their nets.

Weir Must Yield $$,000

Under present cost of twine, etc., a new weir cost this year, according to a weir operator, from $2,000 to $2,500, and the replacing of an old weir, with repairs and additions, cost $1,000. To make a weir a financial success, including labor cost of assistants, each weir should have returned $5,000 gross. Operators who were asked if they had taken in that amount, merely grinned. They are not given much to words at the best of times, but when adversity comes, they are silent but game losers.

Briefly, sardine-herring fishing here is purely a gamble as at present conducted. The fishermen invest, each fishing season, money which they earn during the winter at 'longsore work, at lumbering etc., so that when the fishing fails, the whole year is a failure. That sort of thing happens too frequently to be good for the men, for the industry and for the country. Fishing is a dominant industry in Canada and deserves better from the people in general than it has received.

The lure of the "big year," which occurs once every few years, is all that keeps the men in the game, and once that beacon light fails to shine through the darkness, the sardine-herring industry in these parts may be wrecked forever.

The crying need at present is a market at home, not only so far as packing and canning is concerned, but also as regards consumption. The sooner that market is developed, the sooner will Canada derive benefit from the silvery schools that annually crowd her Fundy shores. A campaign of education in the food value and low cost of the sardine-herring would help appreciably.

Further, the fishermen of this district should be made



An Investment of $2,000 or $2,500

independent of the American canner. The system now in vogue makes the American buyer the master of the situation. He has no competition and dictates the price. Only when the Eastport canners are compelled by market conditions to fight among themselves for local fish, do the local fishermen get anything approaching a fair return for their catch. Another factor which militates against the welfare of the local sardine industry is that the buyers always take the catch nearer home when that suffices, so that the local weirmen have a host of difficulties to contend with.

New Market Needed

A new market, a Canadian market, is essential to the continuance of sardine-herring fishing here. That market should consist first of a factory at St. John with a capacity of at least 300 hogsheads of fish daily; and, secondly, of a Dominion-wide demand for the product.

The Booth Fisheries, Ltd., fitted up a factory here several years ago, but the factory was used only during two seasons and since its capacity is only thirty hogshead a day, its effect on the supply was not appreciable.

Sardine-herring permit of several varieties of preserving. The fish are best known in the canned variety, in oil, mustard, etc. Then there are the famous "Digby Chickens," a smoked class, which are delicious. The fish are also packed in salt and are disposed of in a frozen state in limited quantities.

Canada as a whole is not at all acquainted with the sardine-herring. The maritimes, a portion of Quebec and a small portion of the Canadian West, know the fish but the country has yet to give it proper recognition.

Co-operation of the fishermen and distributors, with government assistance in a national advertising campaign would no doubt achieve satisfactory results as regards putting up the catch and getting it to Canadian homes for consumption.

The fish, the boats, the gear, the experienced men are all available and as a matter of common sense, it is high time that some measure of proper effort should be made to get the sardine-herring industry out of the gambling stage and put it where it belongs, on a sound basis among the dominant industries of the country.

Of Pertinent Interest

A despatch from Gothenburg, Sweden, of recent date, is of interest. An excerpt follows:

Sweden is making a determined effort to stimulate the deep sea fishing industry of the west coast, and at the same time to increase the national consumption of fish throughout the country. The state and local authorities are helping and encouraging fishermen in the purchasing of new boats and fishing tackle, and they are constructing up to-date fishing ports.

The government fisheries board is extending its research work on the habits of the fish and the whereabouts of the largest schools. A campaign to stimulate the public demand for fish as a more important part of the daily fare has been inaugurated, and certain newspapers are calling attention to the exploitation of fishermen by the middlemen. The latter are taking large profits, the majority of which should go into the pockets of the fishermen, or be shared by the public in lower prices.

The system of government inspection has been perfected, inspectors being detailed to the several ports where mackerel is packed for the American market. These men will see to it that mackerel of the highest grade only goes to the United States.



Interior Sardine Cannery, Black's Harbor, N. B.

JAPS FINED $400 AND COSTS

Replying to reports that boats of Japanese fishermen recently arrested on Vancouver Island for fishing without a license, had been returned on payment of a nominal fine, Major Motherwell, chief inspector of fisheries for British Columbia, says:

"In view of the wide publicity given this breach of the regulations I think it desirable to correct a misapprehension and to advise that in each of the fifteen cases the magistrate levied a fine of $100 and costs, which amounts were paid promptly. The boats and contents were confiscated to the Crown and before they were released the previous owners were required to pay an additional sum of $300, making a total in each case of $400 and costs."

NEW ICE PLANT

The new ice tank and machinery of the Canadian Fish and Cold Storage Company at Prince Rupert, B.C., was completed and put in operation about the middle of September, and is expected to furnish an abundant supply of ice for all requirements in the district. W. J. Nicholls, comptroller of the company, says also that the quality of the ice is much improved. The new equipment, costing about $25,000, gives a producing capacity of over 100 tons daily.

A BAIT CONCESSION

It is understood that the recent federal order-in-council has been amended whereby American fishing vessels may take on bait at our Pacific ports on payment of a $1 fee without engaging to land the fish in Canada.

British Fish Man Visits Pacific Coast

Sir Thomas Robinson, K.B.E., fish merchant, steam trawler owner, fish salesman and oyster and ice merchant of Grimsby, England, and director of the Canadian Fish and Cold Storage Company of Prince Rupert, B. C., spent several weeks around the first of September visiting the Pacific Coast. Sir Thomas was at Prince Rupert at the beginning of the great war, and this is his first trip to the Pacific Coast since. Before coming to the Coast he called on the Dominion fishery officials at Ottawa, and visited his daughter in the interior of British Columbia, after which he spent some time looking over fishery affairs at Prince Rupert and conferring with T. H. Johnson, manager of the Canadian Fish and Cold Storage Company. From there he went to Vancouver and Seattle, visiting the principal people in the fish business at each point.

Sir Thomas had had a remarkable career, having spent his early life as a fisherman on the banks out of Grimsby, and starting as a merchant when 28 years of age, since when his interests have greatly expanded. He assisted in financing the Prince Rupert development, and in 1917 was knighted for notable service to the country in the war. Though 67 years of age, he looks much younger, and still takes an active part in civic as well as business affairs of his community, holding office as county councillor and justice of the peace.

Referring to the Prince Rupert establishment, he expresses complete satisfaction with the conduct of the business, and believes it has a promising future. The recently completed addition to the ice-making plant, he says, was badly needed, and the present daily railroad service has been a great help. The trawling operations now regularly conducted by the company, he says, are fairly productive, the catch consisting mainly of plaice.

He states that the English market during the last year or two has taken a great many frozen Steelheads from Prince Rupert and Vancouver, but of late this business has suffered from the competition of St. Lawrence River salmon. No Pacific halibut is being used in England at present. The British trawling industry he declares is in poor shape, as the fish seem to be depleted, perhaps because of explosives and poisons discharged during the war. Producing costs are high, and the market will not absorb the catch at prices that will yield a profit. Large catches are being made by Danish seines, and a good many of the Scotch drifters are taking up this gear.

He notes a marked depletion of Pacific halibut since his last visit, and believes that as halibut grows scarcer, other varieties will gain in popularity.—Exchange.

BOOTH'S ADVERTISING CAMPAIGN

Beginning in September the F. E. Booth Company began a big advertising campaign to popularize the California sardine as a staple food. Full page advertisements for nine months are being run in four of the foremost American journals which reach the householder. The campaign is even more elaborate than that conducted a year or more ago by the Norwegian canners of crossfish.

DUTY ON FISH IN BOND

Although there is a feeling on the west coast that halibut landed at Canadian ports by American vessels and shipped in bond, will ultimately escape the new American tariff, a good authority informs us that the act particularly taxes this class of commodity, the ostensible object being to divert the trade to American ports.

TARIFF HAS LITTLE EFFECT

The tariff of 2c per lb. on fresh salmon came too late to affect Puget Sound mildcurers, who work mainly on fish from Vancouver Island. They do not believe it will interfere greatly with their operations, as it is expected that most of the duty will be taken off the primary price of the fish.—Pacific Fisherman.

COURSE IN REFRIGERATION

The Siebel Institute of Technology, Chicago, announces the fact that it will conduct another regular three months course in refrigeration engineering, starting Tuesday, Jan. 9th, 1922. As in the past the class will be limited to a small number of students to permit the instructors to devote personal and individual attention to each student.

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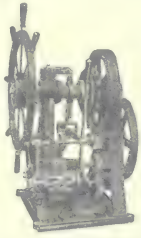
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THE CANADIAN FISHERMAN

Official Organ of the Canadian Fisheries Association

VOL. IX GARDENVALE, P. Q., DECEMBER 1922 No. 12

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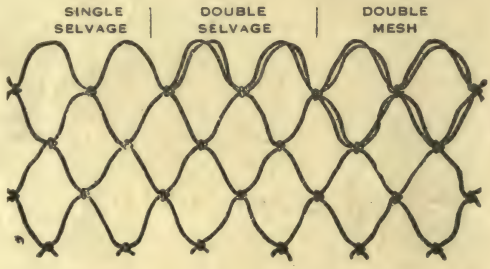
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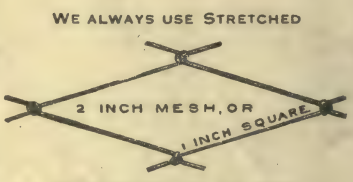
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Official Organ of the Canadian Fisheries Association

A Monthly Journal devoted to the Commercial Development of the Fishery Resources of Canada, and Technical Education of those engaged in the Industry.

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SUBSCRIPTION

Canada, Newfoundland and Great Britain $2.00
United States and Elsewhere $3.00
Payable in advance.

Published on the 17th of each month. Changes of advertisements must be in the publisher's hands ten days before that date. Cuts should be sent by mail, not by express. Readers are cordially invited to send to the editor items of fishery news, also articles of practical interest. If suitable for publication, these will be paid for at our regular rate.

The Industrial & Educational Publishing Co. Limited

J. J. Harpell, President and Managing Director
GARDEN CITY PRESS, . Gardenvale, Que.
Telegrams and Express Ste. Anne de Bellevue, Que.
Eastern Manager, A. S. Christie, Gardenvale, Que.
Western Manager, H. W. Thompson, Aladdin Building, 208 King St. W., Adelaide 3310

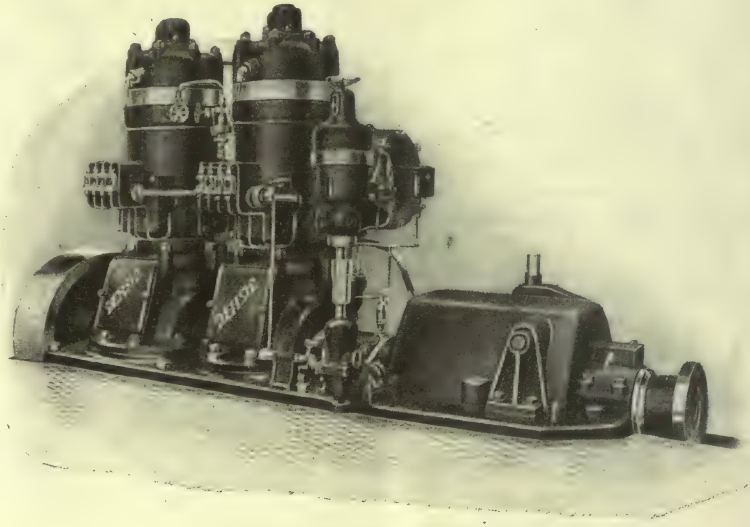
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A MERRY CHRISTMAS

JAMES H. CONLON, Editor

ALL'S WELL SO FAR

The Royal Commission which inquired into fishery problems in British Columbia sprang no surprise in its report to the government, unless it be its suggested method of handling the Oriental issue. A department, separate and distinct from the marine department, is strongly urged, together with a reorganization of the administration at Ottawa and in British Columbia. A close season for sockeye salmon for five years in the Fraser and its tributaries and all coast waters leading thereto is recommended, also an international convention for the protection of halibut resources. The commission feels the necessity for the establisment of practical scientific research stations on both the Atlantic and Pacific coats, and makes minor recommendations which are dealt with elsewhere in this issue.

From information to hand we feel the preliminary report should prove satisfactory to the Pacific province though it is a far cry from the submitting of a report to the adoption of its recommendations. There have been royal commissions before and there have been recommendations touching upon the same or similar issues. These may be found, by removing a quantity of dust and must, ensconed in some pigeon-hole where there no doubt repose numerous other documents that suffered a similar fate. This thing is sort of an off-stage play in politics. The thing that will please the west more than a favorable report is giving practical effect to it. The government must have anticipated the problems to be considered and, therefore, must be prepared for such a report. It sent the commission west to appease agitation and if it fails now to take cognizance of impartial recommendations, instead of allaying dissatisfaction it will only have augmented it. In other words the government is in the position now where it cannot very gracefully refuse what are not only the demands of the industry, but in the opinion of impartial judges, are the righteous demands of the industry. Not least among the recommendations is that for a separate department at Ottawa. It has long been the feeling that this reform is absolutely essential if the government is to have the confidence of the 100,000 thousand people or thereabouts who are very intimately concerned with fisheries development.

It will be some time yet before parliament meets at Ottawa and action on the various questions may of necessity be deferred until then. It is regrettable that something practical could not have been done on the matters that cannot afford to wait, such as halibut protection, but we must check our impatience.

HAGER'S VICTORY

Judging by developments from the hearings of the Royal Commission in British Columbia there is a fair prospect of a joint convention between Canada and the United States for the conservation of the North Pacific halibut industry by instituting a close season from November 15 to February 15 following. A. L. Hager, president of the Canadian Fisheries Association, who has been advocating such a measure for many years, presented a flawless case before the commission and it is, therefore, not surprising that, in its report to the government, the commission recommended a halibut-protection convention.

Mr. Hager has shown commendable energy in forcing this matter upon the attention of the authorities and if a close season should be introduced the Canadian Fisheries Association and the industry in general will have no one to thank but our genial president. Everyone who has been following the halibut situation will recall that it was through the effective presentation of the case by Mr. Hager that the international commission of 1918 incorporated a halibut treaty in the draft convention submitted by that commission to the governments of the two countries. The recommendations of the report, while approved by Ottawa, were held up by the senate at Washington and have never been retified. It is believed by some that the various individual subjects incorporated in the single convention militated against its adoption and it was later advised that the issues involved be dealt with separately. Mr. Hager urged particularly that the halibut issue demanded immediately attention and, apparently failing to get satisfactory action on the part of Ottawa, had eminent American counsel employed who personally interviewed Secretary of State Hughes at Washington, Secretary of Commerce Hoover and Mr. O'Malley, Commissioner of Fisheries. A rough draft of the proposed treaty was presented to each and the report came back that all of them were not only willing but anxious to enter into the proposed agreement.

Following upon this, Mr. Found assistant deputy minister of fisheries at Ottawa, telegraphed Mr Hager, dated August 23, as follows:

> "Only method for adequate protection halibut is by treaty. Canada has already asked United States to enter into treaty dealing with the halibut fishery only."

For some time following the rejection by Washington of the draft convention of 1918 Ottawa hesitated to approach the United States government with a new proposal of a separate convention, feeling that in courtesy the United States government should re-open the issue. Apparently, however, Ottawa has realized the futility of riding a high horse at the expense of the industry. It is not to be assumed, though, that official action at Ottawa began in August. We feel we violate no trust in stating that we were advised in confidence some time earlier that advances to Washington had been made.

In view of the expressed opinions of the interested authorities at Washington, together with the fact that every individual and organization on the Pacific coast having a share in the halibut fishery, wants a close season, there is little room for doubt that an agreement will be reached. We can hardly blame our western friends for skepticism, however, because they have on more than one occasion been within an inch of their goal only to suffer disappointment. Mr. Hager may very well have been the means of reopening the question. If Ottawa had not had some assurance of the favorable attitude of Washington it is doubtful if it would have broached again an arrangement that was rejected in 1918.

OUR EXPORT BUSINESS SLIPPING

Just a short time ago we had occasion to remark upon the failure of dried codfish exporters to maintain in foreign markets the strong advantage which came to them as one of the fruits of the war. During the years of turmoil in Europe Canadian codfish had a pretty clear field in the West Indies and South America and it is possible that because of the facility with which they captured trade in those years, exporters became a bit lax and callous to the requirements of our foreign buyers. The West Indies and South America were more or less obliged to take Canadian codfish during the war years and if there was any detail in the cure that they did not exactly like, they simply had to put up with it or go without codfish. The other normal sources of supply were put out of competition.

As soon as world conditions started on a course toward normalcy our pre-war competitors in the fields set out to recapture the trade. Mind you, Canada had the markets gripped right by the roots. But other producers came along and by endeavoring to give buyers exactly what they wanted, have undermined the market for Canadian goods and threaten to put us out of the running entirely.

In this issue of the Canadian Fisherman one of the Canadian government trade commissioners gives statistics to show that Canadian shipments of cod to Cuba dropped more than fifty per cent. in a year. During the same year Norway increased her movement of fish into the market as did also the United States. Despite all her natural advantages in the way of proximity to the market, cheapness of transportation and facility of communication, Canada lets the prize slip. And why? According to the trade commissioner there is no other reason than that our fishermen will not remove the black nape from the fish. There is absolutely no inferiority in quality. Our cod will stand the test with any. But the people of Cuba want fish without the black nape and if we persist in putting fish into the market without the nape removed, why Cubans will simply go elsewhere and get the accommodation they want.

This is not a new question by any means. We have been hearing about these black napes for years and years. The exporting houses declare they cannot induce fishermen to remove the objectionable portion, even on the assurance of a higher price for their commodity. That being the case it is plainly the duty of someone in authority to correct the trouble.

The fishermen have no direct connection with the market and consequently may not fully realize the urgency for conforming to the market's requirements. It is useless to attempt to force it upon them. With very few exceptions they are not interested. Their interest ceases when the goods leave their sight. If exporters are to be protected and if Canadian trade is to be fostered, the government must step in and regulate these things which are now, apparently, no one's responsibility.

Our foreign trade, no matter whether it be in fish or in cheese, is not the exclusive conern of the immediate exporter. It concerns the entire country and its very nature affects very directly our economic relations with the outside world. This is an age of progressiveness and we must keep abreast of the times if we are to maintain our trade status.

The fishermen have the knowledge and the ability to produce a commodity that will compete successfully in any market. Then, to put in baldly, a bird that can sing and won't sing should be made sing. An extension of the principle of standardization and government inspection is inevitable.

DEMAND PRECEEDS PRODUCTION

A writer in a recent issue of the Fishing News, Aberdeen, Scotland, expounds a truth when he says: "The majority of people engaged in the fishing industry

often think more about catching fish than catching customers. The sale of an article depends very largely on the creation of a demand, and the appetite of our millions of populations can only he whetted by novelties."

That is the situation in Canada very aptly put. Our dominion has unparalleled fish resources and we repeatedly hear and read of the urgency for increased production to develop our national wealth. Undoubtedly the only way to wring a greater revenue from the fisheries is to capture more fish and turn them into the coin of the realm. But that is not looking for enough. In order to turn fish into money there must be people who are willing to exchange money for fish. When fishing reaches the stage where there are no customers available then any production above that is sheer waste of the commodity and waste of time and labor. The first step to make our dormant capital pay a dividend is to create a situation where people will buy more fish. Production will increase in exact proportion to the increase in fish purchases and not a bit more. If our authorities desire to make our fisheries the greatest in the world as their prolificacy warrants, their first step is to stimulate demand. If there is any more logical analysis of the situation we should like to hear it.

PISCATORIAL NOTES

In the old Country fresh fish trade distributors experience great difficulty in securing a return of empty containers. One Fleetwood merchant, apparently believing his instructions will have an effect similar to the "wet paint" warning, has stenciled on his boxes: "This box is given free with the fish". No doubt he stands as great a chance of getting the boxes back as he did before.

The United States government has decided to come to the aid of the livestock industry and do what it can to stimulate the use of meat. A decrease of more than twenty-five pounds in the annual per capita consumption, as shown in late statistics, trikes authorities as alarming. The fact that fish consumption is calculated by an authority in the industry to be not more than fourteen pounds per capita must strike the government unconscious—too far gone to take any action.

Plate Tin May Advance

Until recently plate tin remained at the base price of $4.75 but those in close touch with the situation predict a raise of 25 or 30 cents on 1923 deliveries. No shortage, however, is feared as a result of coal and rail strikes.

FISHERMAN'S PARADISE

Waters of Great Slave Lake Abound in Fish of many kinds

C. S. Macdonald, D.L.S., of the Topographical Surveys Branch, of the Department of the Interior, Ottawa, who has been in charge of the survey of the north shore of Great Slave lake during the past summer, states that the country bordering the north shore of Great Slave lake from the North Arm to the site of old Fort Reliance is mostly covered with rock, the timber being very small and sparse and in some cases entirely lacking. The lake itself contains thousands of uncharted islands, varying from mere rocks to islands over thirty-five miles long.

The water in the easterly end of Great Slave lake is extremely cold and abounds in fish of many kinds. The principal kinds are whitefish and salmon trout. The latter is red in colour, very firm and delicious to the taste. In many places, very little knowledge of the angler's art is required in order to obtain a large catch. As many as twenty, weighing from thirty to fifty pounds each, have been caught in a single afternoon with a medium sized spoon troll. The Indians of this district usually catch these fish with nets. Throughout the greater part of the year fish forms the main and in some cases the only article of diet for these Indians.

NO WINTER LOBSTER FISHING

The Department of Marine and Fisheries at Ottawa, states that the decision given out a few weeks ago by the department, re no lobsters fishing this fall, will be strictly adhered to. This decision had apparently been arrived at immediately after the return to Ottawa of J. J. Cowie,who, a few weeks ago, visited the South Shore from Halifax to Yarmouth and also up the Bay Shore, making an enquiry as to the feasibility of allowing an extension this fall. In talking over the situation while in Yarmouth, Mr. Cowie said there was a great variety of opinion on the subject, consequently the Department was quite at a loss to know just what action to take. He thought, however, before another season should come around, that the Department would, no doubt, send out a lobster commission to make an enquiry of a very searching character, regarding the lobster industry, after which the change in boundary lines of some sections would likely follow.

In speaking of the winter fishing or a short open season this fall Mr. Cowie said that in many places he found the fishermen very anxious for either one or the other, but most preferred and argued in favor of the former. When, however, that official told them that, should a season be allowed this fall, there would be a size limit put in the ruling and it would be strictly adhered to, there would, at every section, come a perceptible change over the fishermen and it was quite apparent that with that knowledge many did not care whether they did or did not catch lobsters during the fall or winter. It is probably due to the divided attitude shown by the fishermen that the Department has not seen fit to accede to the prayer of the petitions which have been sent from many sections to the capital.

Warning to Codfish Exporters

Trade Commissioner Points out that Canada is losing Cuban market through carelessness.

(By Trade Commissioner G. R. Stevens)

Havana, November 12, 1922. — The statistics of imports of codfish into Havana during 1921 and 1922 make discouraging reading. They are as follows:—

	Cases of 100 lbs. net					
	Canada		Norway		United States	
Month	1921	1922	1921	1922	1921	1922
January	10,808	2,982	100		400	
February	8,258	9,850	2,157	1,259	1,121	
March	7,808	6,175	3,032	5,467	2,720	1,830
April	8,771	2,099	4,952	3,084	2,016	2,440
May	4,723	1,270	253	2,383	209	1,379
June	7,932	1,823		150	400	295
July	6,300	4,673	1,797	3,710	1,015	1,210
August	8,505	2,700	2,808	1,063	1,185	1,990
September	5,060	1,625	6,830	6,513	1,220	2,717
October	2,025	930	850	7,597	325	400
November	4,885		5,295		750	
December	5,062		5,967		92	
	80,137	34,127	34,041	31,226	11,453	13,040

These statistics record the falling off of a natural market which came to Canadian exporters as a war legacy — which they had every opportunity to hold, and which is in danger of returning to Norwegian firms through the failure on the part of Canadian fishermen to meet Cuban requirements.

Before leaving for Jamaica last November, the writer discussed the limited but steady encroachments of Norwegian codfish with the agents of several Canadian fish houses. At that time, the competition was admitted, but was not considered to be dangerous, as nearly every advantage rested with the Canadian exporters. Such advantages still remain with the Canadian exporters, but the market is in danger of passing from them to its former suppliers, and from present indications the Canadian share of the codfish trade of the northern half of Cuba will soon become as negligible as before the war.

Norway's Adverse Conditions

The success of Norwegian exporters in the face of Canada's favourable situation is noteworthy. They are several thousand miles further from Cuba than Canada. They are forced to rely upon a monthly steamship service, which necessitates bulk deliveries; the release of such cargoes weakens the market and diminishes their net returns. Their freight rate is 65 per cent higher per case than the rate from Canada. Each case is subject to a landing charge which most Canadian fish escape. It is almost impossible to cancel or reorder from Norway; mails are slow, and cables are much more expensive. The agents of the Norwegian fish houses are no more aggressive, nor have they better connections with the trade than the Canadian representatives, who usually carry potatoes and flour agencies as well — lines which are distributed in conjunction with codfish.

The Matter of Black Nape

There are only two influences favouring Norwegian fish, and of these only one is important. The lesser advantage of the Scandinavian fish lies in the willingness of some Norwegian exporters to forward fish upon consignment. This is an attractive method of merchandising for the importer, and with reliable consignees, the returns from such shipments will probably be satisfactory. But consignment business in almost any line of export tends to run itself into the ground, and it is particularly apt to do s oin Spanish-American countries. On the other hand, some of the Norwegian shippers are demanding more stringent terms of payment than the Canadian shippers, and although their fish keep no longer, is not better packed, nor superior in any way except appearance, they are beginning to command the market. The reason and its solution are simple: the Canadian shippers have been trying to make Cuban importers buy black nape fish; and they will not touch black nape codfish while white nape are to be had.

A visit to any *bodega* (small retail grocery) is illuminatory. The proprietor has no idea of the origin of his *bacalao*, but he is quite willing to talk about it. He pays $13 per case for it, cash on delivery, he says, and he carries stocks for about three weeks at a time. The interviewer shows some surprise; he mentions fish at $12.50. Yes, but that is *aleta negra*—black nape. The interviewer does not know much about codfish if he thinks fifty cents difference will land a sale for black nape when white nape is available. The black nape are admittedly good fish, well cured, good flavour, well packed, and come every week; also the dealers sometimes wait for their money until the fish is sold. But, it is black nape. And that is the beginning and the end of it.

Quality

In so far as the quality of the fish is concerned, there is little or no distinction made between any of the codfish. The Alaskan is a harder and perhaps a little whiter cure; some dealers declare that the cure is so hard that the flavour suffers. In regard to endurance, the Alaskan is probably a little superior to the others although there are no complaints against Canadian fish upon such ground. A few years ago Canadian shipments occasionally softened in the summertime, but no such complaints have been made in late years. In appearance, Canadian fish is supposed to have improved. Before the war, the Canadian fish did not possess the clean and fresh appearance of competing fish; due in part, it was believed, to a poorer quality of salt and also to the small percentage of Canadian fish that are kiln-dried. At present such complaints are not made; the presence of the black nape is the only objectionable feature.

Packing

Canadian packing is very good, although not possessing the neatness or strength of the Norwegian containers. The burned trade mark upon the box is a feature of many Norwegian shipments, and this identification is a valuable sales agent.

Shipping

The Maritime Province fish have all the best of deliveries. Alaska fish are subject to transhipment either at San Francisco or Seattle. Norwegian deliveries are monthly, via Philadelphia. Canadian deliveries are weekly, via Boston.

Transportation and Landing Costs

Canadian fish land in Havana at about 80 cents freight charge per 100 pounds of fish. Norwegian fish come in at about $1. per case, and Alaskan fish at anywhere between 90 cents and $1.10. Landing charges amount to slightly over 10 cents per case, but such charges are included in the Canadian freight rate. Insurance is negligible. Norwegian and Canadian fish pay a duty of approximately 60 cents per case, and Alaskan fish about 45 cents per case.

Salesmanship

Norwegian firms enjoy no advantage in this department. Canadian agents are live and aggressive and very well connected with the local trade. On account of the presence of Canadian banks, payments are easier to arrange. The United Fruit Company are interested in the success of Canadian fish to the extent of well over $100,000 in freight returns annually while Canadian fish predominate. There has been little or no advertising of Norwegian fish as such, nor any systematic exploitation of trade marks. In salesmanship, the proximity of Canada is the key factor. Canadian fish at present are more successful in the country districts, but as all sales are centred in Havana, the rural districts take whatever fish is supplied to them. In the east end of the island the Pickford & Black service from Halifax retains the market for Canadian fish, but for the other five provinces of Cuba the white nape is the determining factor. It is unfortunate that distributors, particularly retailers, believe the Norwegian fish to be better fish simply because of the preference that is shown by their customers for white nape fish. Importers agree that there is no ground for believing that the flavour or cure of the Scandinavian fish is superior. It is therefore apparent that black nape fish are associated both with Canada and with inferiority in the minds of the purchasers, and that Canadian fish will never be recognized as of prime quality until the black nape has been removed. If this operation is sufficiently intricate to cost several cents per fish, it would be interesting to know how the napes are removed from Norwegian and Alaskan fish without such undue cost.

It is understood that the fishermen usually are not paid wages, but share their catches. Also that the large exporting houses finance such fishermen throughout their season. With such relationships in the codfish industry, it would seem that some arrangement might be made to preserve a market worth a million dollars per year. There is every reason to believe that Canadian fish need not undersell Norwegian fish if the black nape is removed, but can drive them from this market through advantages of freight and proximity, and at the same time obtain higher net returns for the Canadian exporters. The local agents of the Canadian fish exporters, the steamship companies which carry the fish, and many foodstuffs distributors believe this, and they are really in a position to know. Yet year after year this matter is unremedied, and in so far as northern Cuba is concerned, Canadian exporters may soon be counted out of the market if this indifferent attitude toward Cuban requirements continues.

FISHERIES RESERVATION IN ALASKA

President Harding on November 3 upon recommendation of Secretary Hoover of the Department of Commerce and Commissioner O'Malley of the Bureau of Fisheries, signed an executive order establishing a government fisheries reservation including Bristol Bay, Cooks Inlet and the waters adjacent to Kodiac and Afoguak Islands in Alaska, for the purpose of protecting the salmon fisheries in that district until such time as legislative action can establish more affective control.

During the past twelve months successive steps have been taken for the preservation of the Alaska salmon by the gradual extension of fisheries reservation. The salmon industry, which produces a food supply valued at $35,000,000 per annum, is now in serious jeopardy due to unrestricted fishing.

Restrictive legislation has been bitterly opposed by the fishing industry for many years. Recently, however, secretary Hoover, in conference with reprensentative canners, secured unanimous agreement to the neccessity of such legislation if the industry is to be preserved. Through the results of scientific investigation during the past summer, Commissioner O'Malley has determined the necessity of the reservation which is now being created as a temporary measure pending an opportunity for Congress to act.

French Experiments in Refrigeration

Brine-freezing process proved to be most effective — Contrary to general belief, no shrinkage found from freezing.

(Specially written for Canadian Fisherman)

In connection with the big effort being made by France to stimulate the development of its fisheries, Government officials have been making an extended series of experiments at the refrigeator and cold storage plant at Lorient, the object being to determine the best methods of freezing and subsequently thawing fish of various species and sizes. At the outset it may be said that while the experiments appear to have solved a number of interesting technical problems, which have worried the French fishing industry, the principles established will not perhaps be readily reconciled with commercial practices or household customs. For instance, it was found that to thaw out various important species of frozen fish the best results were obtained by soaking them for six hours in water of a temperature of 20 degrees Centrigrade, or about 68 degrees Fahrenheit. At this temperature the fish emerged preserving a taste indistinguishable from fish fresh from the sea, but raising the temperature in order to produce quicker thawing modified the taste. Obviously, to meet this condition fish dealers would have to install thawing vats, and change their system of sales. Or housewives would have to be taught to soak fish for six hours. Where the housewife goes to market to buy fish for lunch, this is not easy, but when fish is bought for dinner, the principal meal of the French, it presents no difficulties. The French officials, however, consider this an important problem, and are experimenting in the hope of finding a method by which frozen fish can be thawed in a short time without loss of flavor or taste.

The plant at Lorient where the experiments are being carried on is able to manufacture 120 tons of artificial ice per day, and has a storage capacity for ice of 1,200 tons. It is able to freeze 1 3-4 tons of fish per hour, and to provide cold storage for 2,000 tons of fish or other foodstuffs.

The method of freezing fish found most satisfactory was to immerse in brine containing 27 per cent of sea salt; brought to a temperature of -17 degrees Centigrade, or to zero Fahrenheit. Two brine vats were used, the circulation of the brine being maintained by a pump which forced the brine from the lower to the higher, while a siphon carried the brine from the higher to the lower vat. The fish were disposed on crates arranged in tiers, with an apparatus for lowering them into the vats or raising them.

In some of the experiments hake and haddock were kept in the brine bath for ten hours. But in spite of the long cold bath these fish weighing from eight to fifteen pounds were not thoroughly frozen, tests showing that their interior temperature was only 11 degrees Centigrade, or six degrees Centigrade higher than the temperature of the bath. After four hours in the bath the brine penetrated the flesh of the fish, especially if they were gutted, and the flesh presented an appearance and had a taste similar to salt dried cod, after it had been soaked to prepare it for the cooking pot.

Hour and Half Sufficient

After numerous experiments the experts concluded that it was not necessary to thoroughly freeze the fish in the brine, and they decided that an immersion of one hour and a half was sufficient for haddock, hake, cod and fish of a similar description. On this basis the plant was able to congeal 1 3-4 tons of fish per hour, its contemplated capacity.

When taken from the brine bath the fish, without being submitted to a glazing process were placed in a cold storage chamber, the temperature of which was maintained at between -8 and -12 degrees Centigrade (17 to 10 degrees Fahrenheit.) Later at various intervals samples of the frozen fish were given to many persons who were required to write their opinions as to the quality and taste of the fish, a consensus of these opinions may be summarized as follows:

1. The results of the experiments with mackerel and dories were not really satisfactory. Undoubtedly, after four months in cold storage, these fish are healthy food and by no means unpalatable, but the taste is modified, and this modification is noticeable one month after freezing. The dories become insipid, the mackerel show a concentration of fatty substances in different parts, and gradually develop a rancid taste.

2. The results obtained with all the other fish were judged excellent by the large number of people who ate them.

3. Certain fish were gutted before being frozen in the brine bath; a larger number were placed in the bath with no other preparation than a vigorous washing. Contrary to expectations, gutting the fish offered no advantages, but, on the contrary, presented some inconveniences.

Gutted fish absorbed too much salt and did not present as wholesome an appearance as the whole fish. Gutted or whole, no difference was observable in the fish when kept for equal periods in cold storage. This may appear paradoxical, since the entrails contain the matter most liable to corruption; but the same thing has been observed with respect to frozen poultry.

4. Frozen fish present a compact appearance, and usually it is only by this compact appearance that even a fish monger can tell that a fish has been frozen.

Is No Loss In Weight

Among some fish dealers the belief prevails that freezing fish involves a loss of weight. The French experimenters at Lorient gave their attention to this point, and they report that fish held in cold storage for 4 1-2 months showed no diminution or increase of weight. "Perhaps," they say, "these results, which are in contradiction with others we have read, may be due to the fact that at Lorient the cold storage chamber in which the fish were conserved contained a quantity of ice, and was not wholly dependent on artificial refrigeration. If so, there is an advantage in placing a certain quantity of ice in chambers where fish are conserved."

In passing it may be said that private experimenters in France have advised the keeping of a quantity of ice in cold storage chambers, because it helps to maintain an even temperature if there is a temporary break down of the refrigerating plant. Another consideration worth noting is that brine frozen fish placed in a cold storage chamber containing a quantity of ice soon take on that glaze which improves their appearances.

Effective Net Preservative

American investigation discloses copper oleate treatment produces best results in extending life of net.

In the September issue of the "Canadian Fisherman" was set forth a review of experiments conducted in many parts of the world over a wide range of years in order to locate the best means of keeping fishing nets from rotting and getting the maximum of service from twine. Authorities in Belgium seemed convinced that the most effective method involved treatment with copper sulphate, one favoring direct treatment and another after tanning.

H. F. Taylor, chief technologist of the Bureau of Fisheries, Washington, and Arthur W. Wells, his assistant, have been conducting experiments along the same line for some time and have arrived at the conclusion that treatment with copper is the most effective means of extending the life of nets and strongly recommend copper oleate.

Summarizing their experiments, etc., they state:

"The principal results of practical interest are that those preservatives containing copper are superior to those which do not contain it. Tars are good preservatives for a period up to two months, but they fall off in value after that time, and besides they greatly increase stiffness and weight of the lines and are not suitable for gill nets. They do not protect against marine growths, barnacles, sea moss, etc. Copper paint, while preserving tensile strength well, is objectionable in producing great stiffness and increase in weight, and greatly reduces the ability of the lines to resist mechanical wear.

"As an all round preservative in salt water, copper oleate undoubtedly leads, at least as far as laboratory experiments go. It produces no objectionable increase in weight or stiffness, resists mechanical wear, holds tensile strength well, and no marine growths fouled the lines preserved by it. It is suitable for any kind of line or net—gill nets, pound nets, traps, etc. The copper oleate was applied very sparingly in the lines tested—there was only about 1-15 as much copper as in the lines treated with copper paint. Of course the quantity can be made suitable for any purpose.

What it is

"Copper oleate is a green, waxy or stiff pasty substance soluble in gasoline, kerosene or benzol. It is dissolved, preferably in gasoline, in which solution the nets are to be dipped and dried. Drying takes about 30 minutes to an hour. If kerosene is used 24 hours will be required to dry. One pound of copper oleate should be dissolved in a gallon of solvent for gill nets, linen or cotton; for heavy gear that is to remain in water for long periods, such as pound nets, traps, etc., two pounds of copper oleate should be used to each gallon of solvent.

"Copper oleate is not patented nor trade-marked, and is free for anybody to manufacture or use. Any chemist will know what is meant by the name. It will be more expensive than tar, but probably considerably less so than copper paint, and it appears certain that the saving in the nets will much more than pay for its cost. It is very much easier of application than any kind of tar, is not messy, and all of it can be used without waste.

"It is now being made in the Fishery Products Laboratory in Washington, D. C., for trials in commercial application to practical use.

"In addition to the tests reported, new series are in progress at Woods Hole, Mass., and in fresh water at Put-in Bay, Ohio, on Lake Erie. It is planned to start several other series in different localities, including the Pacific Coast.

"The lines in fresh water show much greater deterioration than those in salt water. It is therefore not advisable to make any definite conclusions or recommendations for fresh water until more definite results are available."

(Continued from previous page)

But the appearance of frozen fish is of little importance if, as the French experimenters believe, the fish should only be sold after they have been thoroughly thawed. This, however, would require a change in commercial practice. The experimenters insist on the importance of the fish being completely thawed, as fish thrown into the pot on par with their interior still frozen were very unsatisfactory. Five pound frozen fish soaked in fresh water at a temperature of 70 degrees Fahrenheit for three hours did not have the taste of fresh fish. An immersion of six hours, however, gave excellent results.

With salt water of the same salinity of the sea and at a temperature of 70 degrees, Fahrenheit, the thawing process was completed in 2 1-2 hours, the water being kept in circulation; when the frozen fish had been twelve hours in the open air—corresponding to an average train haul in France—the thawing by the salt water method was completed in 1 1-2 to hours.

POOR OUTLOOK IN COD MARKETS

The Maritime Merchant considers the outlook very blue in the dry codfish markets. The chaotic condition of Greece eliminates that country as an extensive buyer, says the journal, and it is possible that her imports will be reduced by several hundred thousands of quintals. Brazil, also formerly a heavy buyer, is being flooded with Argentine beef which is available to the consumer at one-half the price of imported cod. Add to these difficulties the muddled exchange situation and the outlook cannot be regarded as rosy. Lunenburg will have about 180,000 quintals of fish to sell. Recent consignments to Porto Rico returned $5.50 per quintal which is not very assuring, the Merchant concludes.

BUILDING NEW RACER

A contract for the building of a new fishing schooner, the Columbia, to be completed in time to qualify for the elimination races next year to decide the United States challenger for the international fishermen's trophy now held by the Bluenose, Lunenburg, N.S., has been awarded to A. D. Story, of Gloucester, Mass.

News Notes From Far and Near

Vessel Abandoned

The Weymouth schooner Lucille B., 67 tons, dragged her anchors at Port la Tour in an easterly gale early on the morning of November 28 and ran ashore. Two hours later the seas were breaking over her forcing Capt. Leander Pothier and his crew to abandon her.

Lots of fish but few buyers

The herring fishery of the west coast of Newfoundland is in full swing with lots of fish available, but a dearth of purchasers. The latter condition is badly restricting the operations of the fishermen. A couple of American schooners landed at St. John's recently with salt bulk and barrelled herring which were immediately shipped to market.

Fish for Currants

Two cargoes of Labrador fish shipped by W. A. Munn of St. John's, Newfoundland, and awaiting instructions at Gibraltar have been sold at satisfactory prices to Italian and Greek merchants. One cargo with 11,200 quintals goes to Italy, and the other 15,200 to Greece.

In the case of the latter sale, as money is scarce in Greece and exchange is at its worst, the taking of a cargo of currants in exchange for part of the cargo, was the factor that concluded the sale.

Fisherman Drowned

Charles Dortt, 19, of Cole Harbor, a fishing village near Whitehead, Nova Scotia, was drowned while returning home from American Harbor about mid-night November 24, when he fell over board from his dory. A northwest gale was blowing at the time. The young man was one of fourteen children of David and Lilla Dortt, five of whom have met death in the past five years.

Hangs up Record

Hanging up a record for the passage of seven days ten hours, the fishing schooner Margaret K. Smith has arrived at San Juan, West Indies, from Lunenburg with a cargo of fish. The Smith was launched at Lunenburg this summer, and her first trip was made to Halifax to take part in the Nova Scotia schooner races.

Good Fishing in Lesser Slave

Good catches are reported in the Lesser Slave Lake, near Edmonton, Alberta, Canada, which closed on September 30. Only half of the fisheries, regulation allotment of 500,000 were caught in the Lac la Biche. A total of 1,750,000 pounds of whitefish and 100,000 pounds of pickerel were shipped to markets in Canada and the United States.

Angling on the Margaree

It is said that more than a thousand salmon were taken by anglers in the Margaree river, Nova Scotia, during this season. The run was exceedingly good, the fish reaching as high as twenty-five pounds. One angler secured forty-five salmon.

Capt. Conrad Retires

Capt. Joseph Conrad, skipper of the schooner Canadia, which was runner-up in this year's Nova Scotia elimination series, has decided to give up fishing. He will retire to his farm at Clarence, Annapolis County, from whence he emerged two years ago from retirement to command the Canadia and qualify her for the races. At a meeting of the shareholders of the Canadia in LaHaye on Tuesday, it was decided to offer the vessel for sale.

Close Season For Herring

The Canadian Government has prohibited the packing of herring under the Scotch Cure Method prior to September 15th or after January 15th; and Norwegian Pack prior to March 1st or after May 10th south of Cape John (Latitude 50). North of that latitude the new rule shall apply at the discretion of the Minister of Marine and Fisheries.

Express Rate on Oysters in Jars

The Railway Commission of Canada recently ruled against the application of the Connecticut Oyster Co., Ltd., of Toronto, to have oysters shipped in glass jars carried second class as are oysters packed in tin. The present rate is first class. The commission took the view that oysters in jars are a higher priced article than oysters in cans and could not see adequate reason for departing from the prevailing rate.

Then the Trouble Began

Johnny is the son of a prominent manufacturer. One time he went to a poultry show with his mother. When his mother tried to get him to go home, he said, "Let's stay until they let the animals out."

His mother answered, "They don't let them out, Johnny."

"Yes, mother," said Johnny, "last night Dad told Uncle Bill that they would wait after the show and pick up a couple of chickens."

A Strong Suction

Johnny came back from the circus very much excited. "Oh, mamma," he cried, as soon as he got in the house. "Kate spilled some peanuts, and what do you think the elephant did? He picked 'em all up with his vacuum cleaner."

Review of Events in Maritimes

From Our Own Correspondent

The sardine industry has very greatly improved in the past two months. The markets revived, with the result that large quantities of the canned product carried over from 1921 were disposed of. The pack of the present year is in a favourable position.

The fishing season was not generally profitable, as little activity was shown by the packers during the greater part of the year. The consequence was that the prices paid the fishermen ranged from $3 to $5 per hogshead. With a quickened market for the canned product the prices for the catches increased to $12 per hogshead. A few of the weirs made a good profit but a number of them did not clear expenses.

The smelt fishery is being vigourously operated and good prices prevail, —.07 cents per lb. being paid on the ice in New Brunswick. Thus far the catches of the Shediac-Buctouche district have been small. In the Miramichi district the catches are heavy and the markets well supplied. For Nova Scotia and Prince Edward Island large shipments have gone forward and profitable prices received, ranging as high as .28 cents per lb. for Extras. The average price for shipments to the Boston Market was about .20 cents per lb.

The lobster fishery of Grand Manan, which opened November 15th, has been disappointing, as the catches have been much smaller than for some years. Similar conditions are reported on the coasts of Maine. The prices, however, are high, —.47 cents at the opening of the season, with subsequent increases the past two weeks. The value of the first three days catch for Grand Manan was $30,000. The demand is active, as the supplies available for the American markets are much smaller than usual.

J. J. Cowie, of the Department at Ottawa, was in Western Nova Scotia some days, looking into the representations requesting another special lobster fishing season for that district, and found that the opposition was so pronounced as to make it undesirable to grant the request for a special season. It is quite apparent, therefore, that the action of the Department some weeks ago in announcing that requests for a special season could not be favorably considered,—was founded on correct information of the facts.

Lobster Packers meet

The Fish Section of the Manufacturers Association met at Moncton on November 29th., to consider proposed regulations affecting the lobster canning industry and also to hear an address by Dr. Harrison of Macdonald College, Montreal, on his experiments and investigations in connection with the discoloration of canned lobsters. Dr. Harrison's address was most timely and valuable and elicited strong expressions of approval. It is probable, as a result of the investigations, that the danger from dicoloration will soon be overcome.

Dr. A. P. Knight gave two addresses, one on sanitation and the other on a well-devised plan for classifying and grading canneries. The latter proportion was adopted and the initial grading will be made in the coming year. It is confidently improving the equipment, sanitation and methods employed in putting up this class of canned goods.

Chief Inspector Fisher, Halifax, who was present, reported on the unusual activity of the lobster fishing and canning industry of the year. The increase in the number of fishermen and traps was the greatest for any single year in the history of the industry. The danger was that the activity of the past year, if continued, would result in too great a burden on the fishery under present regulations.

He further reported that the pack for the year was 146,442 cases. New Brunswick, Prince Edward Island and the Magdalens showed an increased pack, that for New Brunswick being about 4,000 cases and Prince Edward Island about 12,000 cases. While Western Nova Scotia showed a decrease of over 17,000 cases as a result of the special fishing and packing season of the winter of 1921, and also as a result of unfavourable weather conditions during the season of 1922, the total decrease for the whole province was less than 4,000 cases. It is apparent, therefore that the increase in the pack was gratifying in every district with the exception of the Western district. For Yarmouth and Shelburne Counties, in the Western district, the decrease was about 14,000 cases. It should be noted that while the total pack for the Spring season of 1921 is included in the statistics for that year, the season actually included the month of January, 1922.

As already noted, the total pack for the regular season of 1922 was 146,442 cases, as compared with 134,844 cases for 1922, Western Nova Scotia.

GRAND MANAN LOBSTER FISHERS WILL PROSPER

Lobster fishermen of Grand Manan report that they have enjoyed a fair catch off that island and are finding a ready market at high prices.

There is a strong demand in Maine for lobsters and it is said that there are only 400,000 lobsters in the Maine pounds in comparison with 2,000,000 live lobsters usually reserved for the cold weather trade. The Maine shortage is proving a great benefit to Grand Manan lobster fishermen.

New York, Boston and the Middle West makets are also strongly demanding shipments of live lobsters and a considerable portion of the Grand Manan catch will be routed to those centres by way of Maine. One Boston firm is reported to be investing in lobsters at the rate of $100,00o a month.

The lobster fishing season at Grand Manan opened on November 15 and will close in June. However, the industry is usually suspended just before Christmas and the traps landed for the winter.

The western Bay of Fundy grounds will open on January 5 and the Digby Coast fishermen are urging that the season open next year on December 15. Last year, the Digby lobster men had a very good year, but do not regard the next season as having a particularly broight outlook on account of the shortening of the period.

Our English

This startling advertisement recently appeared in a town newspaper:

"The ladies of the Plum Street Church have discarded clothes of all kinds. Call at 44 North Plum Street and inspect them.

Ills of Fundy Herring Industry

Correspondent explains why sardine-herring fishery is unprofitable—Fishermen suggest remedies.

By THOMAS O'LEARY

St. John, N. B.—Constructive critisism by fishermen of my article on the Sardine-herring industry, published in the Canadian Fisherman, November issue, determined a second contribution more fully dealing with the catching and marketing of small herring of the Fundy.

One error cropped out in the preceding article. It occurred in a paragraph having to do with the minimum price per hogshead at which sardine-herring fishing can be made to pay. The minimum price is $5.00, not $3.00, as the published line read.

St. John harbor is peculiarly favored in the size of the sardine-herring which visit its waters annually, in that the comparatively smaller fish always seeks its shores. This condition is so marked, fishermen assert, that if there is a particularly good grade of fish elsewhere, St. John is visited by "Britt," the highest grade of sardine-herring, and a type which compares favorably with the Mediterranean variety. The "Britt," however, are delicate, will not withstand the rough going of lengthy transportation in the raw state, and are adapted only for canning in St. John. "Britt" packs from 15 to 20 fish to the can, or 33 cases to the hogshead.

Rarely do net herring visit St. John waters, and only twice in the last ten years have mesh herring been reported.

In order to keep their factories operating, Americans prefer to purchase half-grown herring from their own waters, at $3.00 a hogshead, rather than come into Canadian waters and buy real sardine-herring at $10.00 a hogshead. Having set a $3.00 rate by using larger fish, the American buyers are able to get Canadian fish at that figure, owing to lack of proper organization among the Canadian weirmen.

In the past two or three years, the fish have run largely to the westward of St. John, and some of the packers have secured the herring from their own traps. A considerable wastage has resulted from use of larger fish, half to two-thirds often going to the fertilizer, in cutting the herring to canning size, and finally the canned product is inferior to the Canadian fish.

The American packers admit that $10.00 is a fair price per hogshead for sardine-herring, but point out that, from their viewpoint, there is no reason why they should pay $10.00 for fish when Canadians sell the fish for $3.00.

Local fishermen assert that present conditions will drive weirmen out of the industry, until, eventually packers will have to put the price up again to re-establish the catching of sardine-herring.

Six-Inch Herring Ideal

The six-inch herring is said to be regarded as ideal for packing, on account of the minimum of waste, and, since it is most pallatable, gives satisfaction to the consumer. For those reasons, it has been suggested that no fish smaller than five inches be allowed to be taken for any purpose.

A brief account of the experience of a St. John fisherman with the herring industry might be of interest, especially as it has a bearing on the quality of the fish caught in these waters.

Explanatory of the presence of the small sardine-herring in St. John County, he said the schools sought the dark waters of the largest river flowing into the Fundy (the St. John River) in order to escape from their enemies, the dog-fish, silver-hake, squid and pollock.

In the past twenty years, the larger herring have been so scarce that the fishing of that grade has ceased to be profitable. The larger fish stay off-shore. The scarcity of larger herring is due to the enemies previously enumerated, the fisherman said. He recalled that twenty years ago, a spawning ground for large herring extended from Black Point to the entrance to St. John Harbor to the Head of the Bay of Fundy.

A quarter of a century ago, both larger herring and dog-fish were plentiful in June and July, the spawning period; now we have neither during those months.

Instancing the destructful nature of the dog-fish, he remarked that he knew of a net 300 feet long and 20 feet deep, having been stripped during a night, so that only the lines were left, after the dog-fish had completed their onslaught on the herring emeshed in the net.

Improved the Situation

The driving of the large herring from the spawning area referred to above, while eliminating the big fish, has re-acted as a benefit in the sardine-herring industry, as fish containing spawn are seldom caught here. Further, shrimp and other tiny fish which furnish food for the sardine-herring do not frequent St. John waters. Hungry fish, the best for canning, are the fish caught here.

The duration of the sardine-herring season is determined by the American packers, and extends from April 15 to December 15. The best months, locally are June, July, August and September, but in the last named month, there is danger of storm damage, owing to the exposed position of the traps.

There are 50 weirs operated in St. John County and several hundred in Charlotte.

Suggestions of fishermen for improving conditions in the Sardine-herring industry include:

1. Fixing by the government, of a minimum price per hogshead of $10.00 and the imposition of an export tax.
2. Federal assistance in taking care of and marketing the catch in a Canadian Market.
3. Erection here of a canning factory, with a capacity of 300 hogsheads each day.
4. Providing of special refrigerator cars for the rapid transportation of frozen fish to the large centres of distribution.

An excellent example of how the American market affects the Canadian fishermen is available in a recent call for sardine-herring, following activity in the New York market for canned fish. Downshore fishermen were offered from $16.00 to $18.00 a hogshead, and, there was a bid to local fishermen of $9.50 a hogshead, but the local weirs had been dismantled after a disastrous season.

The St. John factory, which was not operated this year, has now begun to ship goods on hand.

Where Eloquence Is Futile

"A man ain't goin' to feel better because 'e's always doin' wot other people says 'e ought to do," says Bindle, "while 'e wants to do something else. If a cove's got a rotten 'heart, a silver tongue ain't going to 'elp 'im to get to 'heaven."

New Spanish Treaty Aids Newfoundland

Will mean big annual saving, says Sir Richard Squires — What prohibition has done to upset codfish markets.

Sir Richard Squires, premier of Newfoundland, who was in Montreal recently, states that his country will effect a saving of about $150,000 annually as a result of a new treaty between Great Britain and Spain concerning duties on fish. The actual saving, he says, will be sixty-two cents on every hundredweight of fish, representing a twenty-five percent reduction on the former tariff. The treaty went into effect on November 6. Its application to exports of cod from Newfoundland dates from December 6 and Sir Richard assures his people that all duties put on Newfoundland fish after that date in excess of the new treaty rate, will be refunded by the Spanish government.

Newfoundland is a heavy shipper of dried codfish to Spanish markets and this new arrangement should increase her advantage over competitors.

The Scandinavian countries have all been engaged during the past year in a fight to get their fish into the markets of Southern Europe and have had to modify their prohibition laws in order to achieve this end. This struggle shows what Newfoundland is up against.

The millions of peasants scattered throughout France, Spain, Italy and Portugal drink wines that they manufacture from grapes that they grow in their own vineyards. Fully ten per cent. of all the people of France are connected with the wine industry. Four per cent. of the tillable land consists of vineyards which produce a product valued in 1921 at three quarters of a billion dollars.

In Northern Europe the farmers do not grow grapes or produce wines. They use beers which are manufactured by capitalists and beyond the gain consumed in the way neither the farmers nor the city workmen have any financial interest in the manufacture.

Progress of Movement

The prohibition movement consequently made rapid progess and a few years ago resulted in the enactment of laws that made these countries more or less abandon the importation of wines from Southern Europe. Finland became bone dry, except for the operations of the audacious bootlegger. Iceland went bone dry with a limit of 2 and a half per cent beer.

Norway prohibited the sale and manufacture of all distilled spirits and of wines and beers over 12 per cent. alcohol content and granted all cities and towns the right to vote themselves dry if they chose.

Sweden, since 1914, has been selling spirits only under the Blatt system, which gave to responsible sober adults the right to purchase a small proportion of spirits monthly by the coupon system. The individual was licensed to buy instead of the publican being licensed to sell and was restricted to a small allowance.

Denmark adopted a local option system, whereby districts could refuse the renewal of licenses and under this law 175 districts voted themselves "dry." Temperance enthusiasts were prophesying that in a few years the whole of Northern Europe would be dry when suddenly a bolt was launched at them from the wine-producing countries of Southern Europe.

It was practically declaration of war by these countries. A wet "General Staff" was organized with headquarters at Paris and a plan of campaign was formed to protect the vine-growers and dealers in wines. The propaganda was extended to all the capitals of Europe and reciprocal trade was the lever.

Pressure to Revoke Policy

Iceland, a fish producing country was asked why she had taken the suicidal trade policy of going dry and refusing to import wines. Spain said in effect: "If you remain under prohibition you will have to sell your fish elsewhere or starve."

Iceland used to export to Spain 400,000 quintals of codfish yeary. Her commercial treaty with Spain had just expired and the Spanish government refused to renew it unless Iceland took Spanish wines. The catch of Icelandic codfish was then in the warehouses and to keep it there would have meant the ruin of Iceland's trade and Iceland's fishermen.

Negotiations took place from month to month until finally Spain grew impatient and put up the bars against Iceland's fish. Result: Iceland suspended her prohibition laws for one year and her fish began to move to Spain.

Meantime Iceland voted 20,000 crowns to find new markets for fish.

Norway was notified that unless she removed the prohibition law against French wines, her fish would be excluded from the French market. Further pressure, by forbidding the chartering of Norwegian steamers was added to this. Result: Norway agreed to import 400,000 litres of French spirits, wines and brandies for medicinal and scientific purposes.

The temperance advocates declared the move was bad, but that it was necessary to enable Norway to keep on friendly terms with France, even if the country had to pour the spirits into the North Sea.

Spain then came on the stage and said to Norway, "We buy four million dollars worth of your fish every year, and if you want us to keep on buying from you, you will have to take five hundred thousand litres of our wine.

Portugal then came forward and aslo told Norway that she must take two hundred thousands litres of port wine or else there woud be no Portuguese exportations of fish from that country.

Norway sells 60 per cent. of her catch in Spain and Portugal and she had therefore to agree to the proposals of these countries.

Sweden a few months ago had a referendum on prohibition and 950,000 voted wet against 900,000 dry.

GOOD SMELT HARVEST EXPECTED

The outlook for the smelt fishing season, which opened on December 1st, is most promising along the Kent County coast, according to reports from Richibucto, N, B. The hand liners and gill-net men have had a fair season to date, but their catch has been only a fraction of what the big netters expect to take.

Richbucto is provided with only one fish freezer but the cold storage situation there is relieved by the use of refrigerator cars.

A report from Chatham indicates that smelt fishing in that district is now in full swing and that the fishermen who are equipped for operating in open water are making big catches. The smelt harvest is expected to be the best of recent years and fishermen are referring to their catches in terms of tons.

New York, Lake Fish and the Tariff

United States merchants not at all sympathetic and possibility of changes rumored.

By F. DUPUY

The new tariff of .01 cent per lb. upon Canadian lake fish coming into New York market, has met with strong disfavor among importers in this large city, and some figures showing the large amount handled tell that the industry is one to be regarded seriously. The waters of a large area are fished for this purpose, and it will be of interest to know the localities that furnish such a supply, to enter the market where salt water fish of all sizes, shapes, odd colors and varied flavors are to be found.

Lake Erie is a large contributor. Roughly speaking the north shore, from east to west side, ships 1,000 boxes per day, four days in the week and leads in quantity from this area. The north shore of Georgian Bay is another factor to swell market gains, principal fish being blue pike, whitefish, perch and black bass; then the waters of Lake of the Woods near Kenora district, an extensive area, are fished for yellow pike, jack fish and whitefish. Superior adds a quota of salmon-trout, though in lesser numbers, and whitefish. An estimate as close as reliable sources can furnish, is 6,000 boxes per week, setting the weight of boxes as 100 to 125 lbs.

Dealers and fishermen claim the Fordney-McCumber tariff to be an additional expense, and unwarranted from the fact that expenses were already great and gains too small to allow of the added tax.

Tariff may be Altered

An effort is strongly urged to get modification of this tariff. That this is possible in some cases is an unusual feature of the tariff, foregoing ones having had a fixed and unalterable price. It looks as if in this case the lenient clause was an apology for a measure meant to fit in with the rich man's desires while grieviously hampering the poor man.

American fish dealers claim they have the union to reckon with to their detriment in the procuring of fishermen, while the Canadian producers are not so handicapped in choice of labor. Be that as it may, it can scarcely come under the rules or arguments in setting a tariff.

To judge of conditions right on the spot, I refer to the market places here in New York, the average supply will continue to come in, but sentiment is strongly against the tariff, and action is likely to be forced in the matter of a reduction of the levy.

Men who go down to the sea in ships and ply a trade with nets are credited with a store of patience, but some arguments of late in the Mart of Commerce on this tariff question, or rather discussions, for no one backed the tax, hit this patience theory hard. One even went so far as to say that those in authority to enact the measure knew little of fishing. That must be wrong, Senators and politicians are only elected on their merits, and knowledge of subjects they voice an opinion upon(?)

AT ST. JOHN HATCHERY

The St. John salmon hatchery at Little River recently forwarded to the Grand Fall's hatc'hery 1,500.000 eggs. It is expected that the St. John hatchery will produce in this year's stripping a total of 5,000,000. Last year St. John supplied Grand Falls with 4,500,000 eggs. The work of preparing and transporting the spawn has been carried on by Paul Parent, superintendent, and W. A. McClusky, assistant superintendent, respectively of the Grand Falls' hatchery.

ERIE FISHING SEASON EXTENDED

The fishermen of Lake Erie have had an extremely bad year and, through the assistance of the Canadian Fisheries Association, with which the Lake Erie Fishermen's Association is affiliated, the government has granted an extension of the fishing season to those fishermen operating West of Long Point until December 31. The license to fishermen east of Long Point already permits them to fish until the last of the year.

Early in November fishermen, particularly those located at Port Standley, submitted a petition to the provincial government, but the response was not conducive to optimism. The Canadian Fisheries Association was appealed to as the normal closing date approached and it succeeded in securing the concession on behalf of its members.

It is a fact that the fishermen absolutely needed the assistance the extended season will provide. They have had the worst year in a decade and are without the means to finance their obligations. The spring and summer seasons were not up to normal and fishermen had been relying upon the fall season to make up an average year. The weather up into December was a succession of gales, resulting in very small catches and heavy destruction of nets. The catch up to early December was practically all blue pickerel, the poorest selling fish produced, for which there is a very limited market in Canada, and, on account of the United States duty of one cent a pound, these fish have netted the producer only from one to three cents per pound and in many cases have not realized transportation charges to the American markets. The fishermen usually rely upon the run of herring, which generally sets in early in December, to recuperate earlier losses, but this year even the herring double-crossed them. They were late in putting in an appearance and up to a few days of December 15 there had been no good catches.

The situation was very serious, not only for the owners but for the employees as we. They are paid a daily wage and percentage of their catch so that without the extension of season they would have been faced with a difficult problem to struggle through the winter.

THE STORY OF THE FUSH

Admiral Sir Charles Dundas tells a good story of a Scotch minister. The subject of the sermon was Jonah. An old lady in a front pew was most interested.

"Now, what kind of a fush do you suppose it was that swallowed Jonah?" he cried. "Aiblins it was a herrin'? Aye, but it was no' a herrin'. Aiblins it was a cod? Aye, but it was no cod. Then, dearly beloved brethern, what sort o' a fush was it? Was it a shairk?"

The old lady could keep silence no longer.

"Maybe it was a whale," she said.

The minister rose in fury and banged her on the head with the "gude buk."

"Ye daft, bletherin' bizum," he roared "Ye're takin' the word o' God oot o' the mooth o' ane o' His Ministers.

Fried Fish Shops are Big Consumers

By COLIN McKAY

The United Kingdom is full of fried fish shops—tiny restaurants serving "fish and chips," the chips being French fried potatoes. Their number, it is said, exceeds 26,000. They are as popular with certain classes of the population as a quick lunch counter in a lodging house district in Canada. They do a considerable business in the late evening. If one wants a light repast before going to bed fish and chips fill the bill; they are quite as tasty as the pies or sandwiches served at a Canadian quick-lunch counter—and they are more readily digestible. Another consideration, which is important when you have to count the pennies, is that the price is more modest.

The fishing industry appreciates the value of these fried fish shops. In the aggregate they constitute an important market; moreover, they utilize a variety of small fish which otherwise could not be handled profitably. More than one big captain of the fish industry, who has been honored by the King, has advanced money to found some of these modest establishments. They would not boast about it. But they would not deny that loans made to assure the establishment of the little fish and chips counters brought their some good business.

Not to Canadian Taste?

The Canadian Fisherman has sometimes expressed surprise that fried fish shops have not made their appearance in Canada. One reason doubtless is that people do not have to be so careful of their pennies. But that is probably not the only reason. One wonders sometimes why restaurants in Montreal or other interior cities do not serve a fish chowder, such as you can obtain on Atlantic avenue, Boston, Mass. It is not a question of cheapness, for Boston is a wealthy city, with a highly paid working people. Also, the men who find an Atlantic fish chowder a satisfying meal, are mostly accustomed to heavy labor.

All of which suggests that the fried fish shops has not made its appearance in Canada for the same reason that the real fish chowder remains a New England institution. The culinary art everywhere exhibits local peculiarities —is a product of past conditions and customs. Canada, rich in cattle and game, has not had the same incentive as Britain to develop highly economical methods of preparing for the consumer its food supplies from the sea. The power of the Dantzig League was founded on fish; the Netherlands, Motley tells us, derived from its fisheries power to resist the might of Spain; and Britain in the great war learned thats its fisheries and fishermen were a tower of strength. But to Canadians the fisheries are, if not an inconsiderable trifle, at most a minor asset of a country rich in natural resources. And cooks, being conservative, even if they sometimes vote for Liberals or farmers, have not sought to develop a culinary art, calculated to make the most effective use of our supplies of fish?

REVIEW OF OCTOBER FISHING

Notwithstanding the unfavourable weather conditions which obtained on the Atlantic coast during the month, there was an increase in the landings of sea fish in Canada. 679,697 cwts. were taken compared with 490,206 cwts. in October, 1921. The value of the catch to the fishermen in the past month was $1,493,365, compared with $1,467,324 in the previous October.

The total catch of cod, haddock, hake and pollock during the month was 156348 cwts. compared with 127,939 in the corresponding period of 1921. Pollock was the only one of these varieties to show a falling off in the catch.

The quantity of mackerel taken was 20,501 cwts. compared with 15,429 cwts. in the previous year. This brings the total mackerel catch for the year up to 240,331 cwts. compared with 141,855 cwts. in the previous year

During the month 4,298 cwts. of lobsters were landed which is a slight decrease from the landings in October last year. The total catch since the opening of the season in November last is 349,515 cwts. of which 65,055 have been used fresh and the remainder canned, making 142,206 cases. The figures for the corresponding period in the preceding year were 338,172 cwts. caught, 87,864 cwts. used fresh and 125,611 cases canned.

During the month the smelt and oyster fishing seasons opened. There were 2,346 cwts. of the former and 10,630 bbls. of the latter taken. These quantities are slightly less than for October, 1921.

On the Pacific Coast good catches of fish were taken.

The catch of halibut was 23,835 cwts. compared with 20,360 cwts. in October, 1921.

There were 114,184 cwts. of herring taken against 14,325 cwts. There fish were especially plentiful around Vancouver Island.

A large catch of pilchards, 13,714 cwts. was taken off Vancouver Island.

There was a decrease in the quantity of salmon taken, 98,176 cwts. being caught compared with 118,576 cwts. in October, 1921.

LUNENBURG FLEET HAD RECORD CATCH

In comparison with former years, 1922 is a banner year for the Lunenburg County fishing fleet, as far as the quantity of fish landed is concerned. The total catch for the year is 312,075 quintals, 47,800 quintals more than last year, and 16,925 quintals more than the catch of 1919, which at that time was the largest in the history of Lunenburg fishing.

With 99 vessels in the fleet the average catch per vessel of 3151 quintals is also the highest on record.

In 1919 there were 105 vessels in the fleet, six more than this year, and the average of 2810 quintals per vessel at that time was considered quite high. Last year there were only 33 vessels in the fleet, and the average was 2842 quintals per vessel.

In the spring of 1921 only five vessels left here in March on an early trip. These vessels returned in April, and landed a total catch of only 3300 quintals. On this account, the catch was short and Lunenburg fish were very much in demand and the catch moved rapidly. This year practically the entire fleet took frozen bait and left here in March on an early trip. These vessels did exceptionally well and 76 came home and landed a catch of 44,625 quintals. The second spring catch amounted to 88,200 quintals, but on the summer catch some of the vessels did not do so well, and the catch amounting to 179,250 quintals, is 12,650 quintals short of the summer catch of last year.

P. E. I. FISHERIES REVIEW

The total value of the fisheries of Prince Edward Island for 1922, will be upwards of $1,500,000 an increase of $100,000 over 1921, according to an estimate by Mr. S. T. Galtint, Inspector of Fisheries from the returns received for ten months ending October 31st.

At time of writing, the middle of November, oyster fishing was in full swing, with a fortnight yet to run: a few cod were being taken when the weather permitted and smelt fishing for gill nets was in progress. At the end of the month, fishing will be over for the season with exception of smelts, and it is in the early winter months, that the bulk of these are netted.

It is on the lobster, however, that the fishermen of the Island mainly depend, and the catch this year, for the early and late seasons was 41,611 cases, valued at $1,248,450 plus 2606 cwt sold in shell, $26,060, making a total of $1,274,510 compared with $645,548 for 1921, about a hundred per cent increase.

The yield and value from other branches of the industy are estimated, as follows, boatside prices being quoted:

Herring, 38,918 cwt	48,647
Mackerel, 6573 cwt	40,493
Hake, 16614 cwt	16,614
Haddock, 826 cwt	1030
Eels, 17 cwt	102
Salmon, 19 cwt	228
Trout, 35 cwt	350
Alewives, 40 cwt	50
Oysters 5000 bbls	40,000
Smelts 10,000 cwt	80,000
Herring 38,918 cwt	31,152

The above totals $236,311 and the grand total including lobsters is $1,510,821.

An Oyster Revival

An encouraging feature of the fishing situation in general is the revival of the oyster—Years ago as many as 60,000 barrels were shipped annually, mainly from Malpeque Bay and the Malpeques were famed the continent over. Though over-fishing and lack of protection, the once famous Malpeque beds became almost barren and a few years ago a disease almost wiped out the few remaining—, after an attempt had been made at artifical propagation on barren bottoms leased by the Provincial Government. The disease, however, has apparently run its course and there is evidence that the beds are starting to bear again, but as many have been sitted over with soft mud which affords no clinging place for the spat, there must be a general cleaning up, before the lost fertility of the beds can be expected to be restored. Some arrangement too, should be made between the federal and parliament governments—with a view to better protection. Whilst the Malpeque beds are yielding little or nothing and making an heroic effort to get on their feet once more, good catches are being made in the East River and West River and tributaries, also in Vermon, Seal, Orwell, Percernal and other waters, with the East River yielding about eighty per cent of the total catch which is expected to exceed that of 1921 by 1300 barrels.

Owing to the fact that the beds are laved by the salt sea with each tide and that they are free from the pollutions which find their way over oyster beds in other parts of the continent the Prince Edward Island oyster, has a delightful saline flavour all its own. There has been a good demand this year the market holding well, boatside prices ranging from $6 to $8 per barrel. Some fishermen have already landed fifty barrels each giving them a nice little return for less than two months' work with trap.

RACING RULES AMENDED

Rules covering displacement and sparring have been incorporated in the deed of gift of the International Schooner Race trophy, according to a statement made public by H. R. Silver, chairman of that body. In this statement the chairman states that such regulations have been made to prevent the development of racing machines under the guise of fishing vessels, at the expense of safety and utility. Having in mind the tendency toward building extreme types of vessels during the short time the trophy has been up for competition the Board of Trustees have, after consultation with competent designers, added the following to the Deed of Gift:

DISPLACEMENT: The cube root of the displacement in long tons shall not be less than five and eight-tenths per cent. (⅝ per cent.) of the measured waterline, and in order to ensure a proper freeboard the area of a cross section above the water line by the vertical distance from the water line, at the lowest point of the freeboard, to a point half way between the top of the main deck and the top of the break-deck, shall not be less in square feet than the length of the waterline in lineal feet.

SPARRING — In order to prevent oversparring the limitation of height shall be the extreme height of the mainmast, from the deck to the maintopmast halyard, band shall not exceed the sum of half the waterline length, plus twice the greatest breath at the waterline, plus ten feet, and the highest position of the main throat craingle shall not be more than half the total mainmast height above the deck. This rule does not affect the 80 per cent area rule.

Duff Critical

William Duff, N.P., of Lunenburg, a large owner of fishing vessels, in a letter to the Halifax press questioned the wisdom of the new sparring and displacement regulations recently announced by the trustees of the internation fishermen's trophy and added that "it would be interesting to know if the Bluenose would be qualified to enter the races under these new rules."

What Burgess Thinks

Naval architect W. Starling Burgess, or Boston, Mass., commenting on the displacement rule as laid down by the trustees of the International Fishing Vessel Trophy, declared it to be arbitrary and almost impossible of application. Mr. Burgess designed the Mayflower, Puritan and the proposed Columbia.

Speaking of the displacement rule, Designer Burgess said: "I doubt if one fisherman out of ten has been built sufficiently close to the lines or model to enable one to calculate her displacement within five or ten or even fifteen per cent.

"Our small yachts under the universal rule are readily weighed, but this, of course, will be impossible in the case of fishermen. The only method we have is a calculation from the hull design by means of a surveying instrument. The process is a tedious one, expensive, and must be done by a man who thoroughly understands his business.

"Then, too, the displacement and free board required by the trustees' new regulations call for a boat entirely too high-sided and too cumbersome for our fresh fishing. The whole matter seems to be in a regular muddle."

Royal Commission Submits Report

Separate Fisheries Department, halibut treaty and modification of license system strongly urged—Report in Detail.

Printed herewith is a complete copy of the preliminary report of the Royal Commission which recently inquired into British Columbia fishery questions:

The Committee appointed pursuant to the provisions of the Public Enquiries Act on recommendation of the House of Commons realizing that the matter of the British Columbia fisheries, which was submitted to them for investigation, is of great importance, and having in mind the fact that all interested in the industry are entitled to the earliest possible notice of impending changes affecting the industry, beg to submit, pending the final submission of a full report, the following recommendations in which they have unanimously concurred, except as hereinafter mentioned.

It is of course to be understood that the Commission are absolutely unanimous in the following and recommend their adoption without any avoidable delay, nevertheless the Commission will at a future date submit for the approval of Parliament a comprehensive report of their finding, together with the reasons therefore.

1. *Gas Boats in District No.* 2. — Your Commission have fully considered this matter, and recommend for adoption that on the opening of the fishing season of 1924 in District No. 2 the use of motor boats be permitted.

2. *Japanese Licenses.* — The Commission find that the number of white men and Indians holding licenses is not in any way commensurate with the number of Orientals, and as a consequence the Commission recommends that there be a reduction on all licenses issued to fihermen other than white fishermen and Indians of 40 per cent. in 1923, this to include all methods of fishing, and that licenses issued in District No. 2 to others than whites and Indians be attached to the canners *pro rata.* Local residents and returned soldiers to be given preference in all districts.

3. *License Fees.* — The Commission are strongly of the opinion that the present system of exacting license fees is of such a character as to eliminate progressive citizens from engaging in the industry and also bears heavily upon an industry which is already taxed to the limit. The Commission feels that a person should not be called upon to pay extravagant license fees without being assured of an adequate return, and to that end it unanimously and energetically recommends the following:—

The fee for an abalone license shall be ..	$ 1.00
For crab license shall be	1.00
Herring or pilchard drag-seine license ..	5.00
Herring or pilchard purse-seine license ..	5.00
Salmon drif or gill-net license	1.00
Salmon drag-seine license	20.00
Salmon purse-seine license	20.00
Salmon trap-net license	50.00
Sturgeon gill-net or drift-net license	1.00

Annual fee for salmon cannery license, we recommend it shall be $20 for said license and in addition 10 cents for each case 48 1-pound cans, or the equivalent thereto, of sockeye salmon, and 5 cents for each case of any other species of salmon.

4. *Drag and Purse Seines.* — Your Committee submit and recommend for your approval that drag and purse-seines should not be permitted to be operated save where demonstrated to be the only practical effective and reasonably economic method of catching fish, and in cases where purse-seines and drag-seines are permitted, the boundary to be moved out to not less than ½ mile from the mouth of the creek or stream, or further if in the discretion of the Chief Inspector it is deemed advisable. The Commission most strenuously urges and recommends that in cases where drag or purse seines are permitted, none other than white British subjects and Indians (natives) be employed. This recommendation to be most imperatively enforced.

5. *Cowichan District.*— Inside of a line drawn in Cowichan bay, from Separation point to Cherry creek, that no fishing be allowed by net, except as provided for Indians. Neither in all waters south of the line drawn from Graves point to Erskire point, and to a point drawn from Separation point to Musgrave point, including the waters of Sansan narrows and Bourgone and Maple bay, shall any fishing be allowed in these waters by net or live bait.

6. Licenses for cod fishing for commercial purposes to be issued without fee.

7. *Close Season for Salmon.*— That all the words in clause 8, on page 10, of the Regulations as found in the last five lines of said paragraph, commencing at the word "provided" in the said fifteenth line, be struck out.

8. *Weekly Close Time.*— The Commission recommends that the close season for salmon fishing be in all parts of British Columbia from 6 a.m. Saturday to 6 p.m. on the following Monday of each week, provided, however, that this shall not apply to salmon trolling as provided in subsection D of section 27 of the Regulations.

9. *Fines for Illegal Fishing.*— In this connection the Commission feels that penalties as provided for in the laws at present extant are unduly oppressive and harsh in many instances, and they therefore recommend that the law be amended so as to make confiscation or forfeiture for a violation of the laws a permissive rather than an imperative act. The Commission have found that there is a great deal of fishing done during the close season and in closed areas, and also the use of more apparatus than that permitted by law, and we recommend that drastic action be taken to prevent such abuses of the law.

10. *Herring.*— Your Commission are strongly of the opinion and recommend that no purse or drag seine be permitted to be operated for the catching of herring in Nanaimo harbour and Departure bay. Your Commission after investigation realize the possibilities for the development of the mild-cured herring industry, and would strongly recommend that the Government en-

courage said industry by making experiments with steamers equipped as drifters, and make any other experiments which may be necessary.

11. *Halibut.*— We strongly recommend that a close season on halibut be enforced dating from about the 15th of November to 15th of February in each year, and that experiments be made to ascertain the movements of said fish, the banks where said fish are to be found and as to advisability of closing certain banks for certain periods.

12. *Embargo.*— Your committee recommends that no action be taken on the proposed embargo.

13. *Life-Saving Patrol.*— We recommend that in order to help fishermen in distress, that one or more boats be placed in readiness on the coast so that they may proceed to the assistance of fishermen in distress. The said boat or boats can also be used in studying the habits of all classes of fish and prospecting with regard to habits of said fish.

14. *Practical Scientific Investigation.*— We strongly recommend that such a Board be established and which shall consist of practical scientists who shall be located one on the Pacific and one on the Atlantic coast.

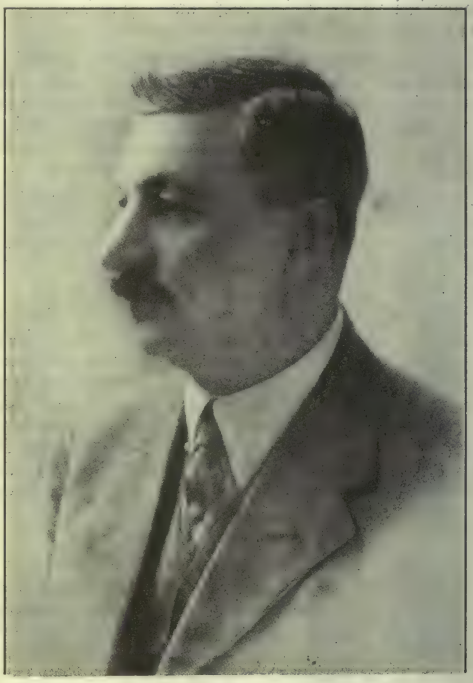
15. *Hatcheries.*— Your commission has gone into this matter very thoroughly and heard a great deal of evidence both from employees of the said hatcheries and men engaged in the fishing industry, both as fishermen and purchasers of fish, and we are of the opinion that most of the hatchery operations could be suspended except that two hatcheries be kept in operation to experiment with the new proposed system and that a certain amount of the moneys now spent in hatchery operations be used for the clearing of streams, obstructions in rivers and improving the spawning grounds for natural propagation. We also recommend that the bottom of the river near Hellsgate Canyon be cleared of obstructions as the evidence goes to show that that work was not properly completed.

16. *Dog Fish.*— Your Commission strongly recommends that every available means be used for the extermination of this pest, and with that end in view it submits that dog fish should be permitted to be taken with all sorts of contrivances without any restriction of any sort whatsoever. Further, the Commission recommends that a bounty should be placed upon the catching of these dog fish and encouragement should be offered by way of financial or other assistance to those engaging in the extermination of this pest and the utilization if at all possible of the same.

17. *Clams.*— Your Commission recommends that there be a close season on clams either for canning, the selling fresh or any other purpose, the said close season to be fixed as to the time deemed best for the protection of said fisheries.

18. *General Observations.*— Your Commission have had the privilege of a conference with the Fishery Board of the State of Washington and have discussed with said board matters generally advantageous to our joint fisheries. The Fraser river matter was thoroughly discussed in an extensive manner and in a spirit of International comity and good-will. The majority of your commisioners were able to arrive at a tacit understanding with these commissioners, subject to the approval of the proper authorities, and we have authorized the Chairman of the Commission to set before the proper authorities the results of our deliberation, owing to the fact that this is a short memorandum of our conclusions. However, to speak tersely and comprehensively, the majority of your commissioners, consisting of Mr. Chairman Duff, M.P., Mr. H. C. Dickie, M.P., Mr. Alfred Stork, M.P., and Mr. A. W. Neil, M.P., have agreed to recommend to the proper authorities that a close season of five years for Sockeye salmon fishing on the Fraser river and its tributaries and all coast waters leading up to the same be instituted for a term of five years, provided Americans do the same on Puget Sound, and that an International Commission be appointed consisting of representatives of the state of Washington and of the Dominion of Canada to govern the matter of regulations during the said period and during the term thereafter, this to embrace the right to deal with all kindred subjects. Commissioner W. G. McQuarrie and Commissioner L. H. Martell, M.P., dissented from the foregoing and reserved the right to submit alternative proposals.

Your Commission also had the benefit of a conference with Mr. C. E. Garfield, representing the Alaska Fisheries Commission in *re* the Naas and Alaska salmon fisheries and as a reult of aid conference your Commission recommends that steps be taken with a view to having this matter dealt with between the parties interested.



Wm. Duff, M.P., Chairman of Commission

In re Halibut Fishing

The Commission strongly depreciates the action of the department in issuing regulations and taking action after the Commission has started work, dealing with matters coming within announced scope of the Commission, and they cannot but express the opinion that such departmental action was unfortunate, ill-timed, and calculated seriously to hamper the commission in their consideration of several matters, notably the halibut situation, in its international aspect, and also the question of reduction in license to others than whites and Indians. The Commission also deplores the fact that when this Commission began its operation any fishery matters in the way of regulations or other matters apart from

routine should have been given to the press during the Commission's operations. The Commission has, however, thoroughly considered the halibut industry and it recommends that a close season be placed upon halibut. The said close season to begin November 15 and end on February 15. The Commission further recommends that an international arrangement be made towards the securing of the said close season in extra territorial waters, and we have the assurance of the Washington Fisheries Board that they will render aid towards assisting the said arrangement being arrived at on the part of the United States Federal authorities.

Organization.— In all parts of British Columbia there is a demand as is felt obtains in all places in Canada where the fishing industry is of paramount importance that ever since Confederation, the fishing industry has not received the consideration its importance so adequately deserves. Witness after witness prominent in the fishing industry, both from the standpoint of merchant and fisherman, strongly accentuated the fact that there should be a Minister of Fisheries, with an roganization under him thoroughly qualified and so organized as to give the fishing industry the consideration which it properly deserves. The Commission will subsequently submit a full and comprehensive report but suffice it to say for the purpose of this memorandum that all persons intimately connected and associated with the fishing industry demand that the matter of a minister with practical knowledge of the fisheries, and a thoroughly competent staff be no longer temporized with or unduly delayed. A new Department of Fisheries, separate and apart from the Department of Marine and Fisheries, should be established without delay, and thorough reorganization of the fisheries both in Ottawa and British Columbia should in the public interest be undertaken instanter.

Re Orders in Council.— It is felt by the Commission that having regard to the exigencies of the service that no Order in Council should be promulgated without due notice of its effect upon the fishing industry and those engaged in it first having been given as far as reasonably possible.

Naturalization Papers.— Whilst realizing that the method of granting naturalization papers is beyond the scope of this Commission, yet your Commission have found that there has been a flagrant abuse of the same in so far as Orientals are concerned. The Commission therefore recommends that all naturalization papers in the province of British Columbia in so far as they affect Orientals, be called in and revised, and that in future whilst it is not desirable to naturalize Orientals, yet if this is done the papers be not granted to them without a photograph first being attached as well as finger prints, in accordance with the usual conditions approved by law. No Oriental should receive a return of his naturalization papers unless he complies with the provisions that should be made by the department to protect wholesale fraud.

In conclusion your Commission submits that the foregoing is but a meagre outline of the matters which came before them,—the foregoing is respectfully submitted as an interim memorandum.

(Announcement has been made by the fisheries branch at Ottawa that the government will not make effective during the 1923 season the majority recommendation to close the Fraser to sockeye fishing for five years.

The number of Japanese licenses issued in 1922 was 2,614, a reduction of 200 from the previous year. If the forty percent reduction recommended is put into effect a number of Japanese licenses will be reduced next year to 1,045. —Ed. C. F.)

U. S. Unofficially Favors Treaty

Following is a copy of the draft halibut treaty which A. L. Hager, president of the Canadian Fisheries Association, submitted to interested authorities at Washington to ascertain the attitude of the United States government providing Ottawa suggested a special halibut treaty. The perseverence of Mr. Hager has been the means of bringing the two governments into a discussion on the issue.

DRAFT

Treaty between the United States of America and Great Britain concerning halibut fishing

The United States of America and His Majesty George the V of the United Kingdom of Great Britain and Ireland, and of the British Dominions beyond the Seas, King, and Emperor of India, being equally desirous of securing the preservation of the halibut fisheries in the Pacific Ocean and waters tributary thereto lying off the westerly coast of the United States, British Columbia, and Alaska, have resolved to conclude a convention for such purpose and have named as their plenipotentiaries:

The President of the United States of America.

His Britannic Majesty,

who, after having communicated to each other their respective full powers, found in good and due form, have agreed upon the following articles:

Article I

(a) It is agreed by the high contracting parties that the inhabitants of the United States, and British subjects residing in the Dominion of Canada, respectively, and vessels and boats of the United States and the Dominion of Canada, shall be prohibited from fishing for halibut in the waters of the North Pacific Ocean on the westerly coast of the United States, of British Columbia, and of Alaska from the sixteenth day of November,1922, to the fifteenth day of February, 1923, both dates inclusive, and during the same period yearly thereafter until the fifteenth day of February 1937.

(b) It is further agreed by the high contracting parties that nothing contained in this article shall prohibit the citizens or subjects of either country from fishing in the North Pacific Ocean for other species of fish during the periods when fishing for halibut in such waters is prohibited by this article, and any halibut that may be incidentally caught when fishing for other species of fish shall be returned to the waters from which the same shall be taken, and shall not be frozen, canned or cured, and no portion of the same shall be used for any purpose whatever other than for the food by the crew of the vessel taking the same.

(c) It is further agreed by the high contracting parties that any vessel or boat of the United States or of the Dominion of Canada that may engage in halibut

fishing in violation of this article may be seized and detained with the persons thereon by a naval or other duly recommended officer of either of the high contracting parties, except within the territorial jurisdiction of the other, and shall be delivered as soon as practical at such place as may be agreed upon to an authorized officer of the country owning such vessel or boat; that the authorities of the country to which such persons, vessel or boat belongs shall alone have the jurisdiction to try the offense and impose penalties for the same; and that the witnesses and proofs necessary to establish the offense, so far as they are under the control of the other country, shall be furnished with all reasonable promptitude to the proper authorities having jurisdiction in the matter.

(d) It is further agreed by the high contracting parties that any boat or vessel so seized for violation of the provisions of this article shall be condemned by the courts of the country having jurisdiction, and forfeited to the United States or to the Dominion of Canada as the case may be. Any person arrested for a violation of the provisions of this article shall be tried by the courts of the country of which he is a citizen or subject, and upon conviction shall be fined any sum not exceeding one thousand (1,000) dollars or by imprisonment not exceeding six months, or both, at the discretion of the court having jurisdiction.

(e) It is further agreed by the high contracting parties that no halibut during such closed season shall be permitted to be landed or imported into either country, whether taken by citizens or subjects of the United States or by citizens or subjects of the Dominion of Canada or Great Britain, or whether taken by the citizens or subjects of any other nation or government.

This convention shall remain in force for a period of fifteen (15) years, and thereafter until two (2) years from the date when either of the high contracting parties shall give notiee to the other of its desire to terminate this convention. The present convention shall be duly ratified by the President of the United States, by and with the advice and consent of the Senate thereof, and by His Britannic Majesty, and the ratification shall be exchanged in Washington as soon as practicable. In faith whereof, the respective plenipotentiaries have signed the present convention in duplicate, and have hereunto affixed their seals. Done at Washington this day of.....in the year of our Lord one thousand nine hundred and twenty-two.

Happenings on the Pacific Coast

F. A. Gosse & Co., Ltd., Vancouver, B.C., have opened an office at 401 Colman building, Seattle, under the management of A. W. Peterson. This step has been taken in order to better take care of the requirements of the company's customers in the United States and abroad.

Big B. C. Salmon Pack

Valued at $11,500,000, the 1922 British Columbia salmon pack aggregates 1,290,326 cases. It has been exceeded on only four occasions since statistics have been compiled during the last twenty-six years and the most recent was in 1919, when the total was 1,393,156 cases.

Halibut Boat Burned

The Canadian halibut schooner Bartalome of Prince Rupert, was destroyed by fire off Cape Muzon, Alaska, early in October. Capt. Selig and crew were saved.

20 drowned; 4 Vessels Lost

A score of men probably are devoted and four fishing vessels are given up for lost, following the return to Prince Rupert, B.C., on December 6, of Government and fishing vessels which have been searching for three United States and one Canadian fishing boats long overdue.

Not the slightest trace had been found of the four small craft which put to sea more than two weeks ago and are long overdue. The weather recently in this vicinity has been such that there is little likelihood that the boats are still afloat. The only hope for the rescue of their crews, which average six men to the boat, lies in the possibility that they have been picked up by some large vessel which has not reported.

The Canadian boat Valorous and the United States boats Morengen, Washington and Convention are the missing boats.

AVERAGED 3,151 QUINTALS

The Lunenburg fishing fleet landed a record catch of 312,075 quintals of fish during the past season, it is announced. This is 16,925 quintals in excess of the 1919 record. The estimated value is over $2,000,000. The average catch per vessel was 3,151 quintals. The "Marian Belle Wolfe," with 5,600 quintals, headed the fleet.

SALTED WHALE TAILS FOR JAPAN

Ten tons of salted whale tails were shipped during the week to Japan. This food is a popular delicacy in that country.

TRIALS OF DANISH SWEEP NET

Through the cooperation of the Bureaus of Navigation and Public Health, it has been possible for the Bureau of Fisheries to arrange for trial demonstrations about the Swedish vessel Carnegie for a short period of time, with waivure of certain restrictions, to enable American fishermen to determine the suitability of the Danish sweep net for use in our waters. Preliminary trials made off the coast of New Jersey were not productive of commercial species in marketable quantities.

PACIFIC HERRING MAY RIVAL NORTH SEA

The herring hauls of the Pacific Coast may yet rival the North Sea. According to Gosse-Millerd, there have been some very large catches of herring made off the coast of British Columbia. In fact, the firm says that they themselves have caught as much as 200 tons of herring in one day, which would probably mean one and a half million fish. Their total catch during the last season, which begins about the middle of October and ends about the middle of February, was in the neighborhood of 50,000 tons — about 400,000,000 fish.

Canning Pilchards

Gosse-Millerd, Inc., state that they are at present canning pilchards at San Mateo on the west coast of Vancouver Island, mainly in 1-lb. tall salmon cans. While the market is more or less a limited one, they say, they ship the product to practically all parts of the world except to countries where the tariff is prohibitive.

Up to the middle of October their herring canning season had not started, and a small pack was anticipated, owing to competition from the English pack, produced at much less cost. This company packs both kippered and tomato herring, the principal sale being for herring in tomato sauce.

Booklet on B. C. Salmon

A "Treatise on British Columbia Salmon" by W. D. Burdis, secretary of the British Columbia Salmon Canners Association, has just been published by the association for distribution to the trade. It is neatly gotten up as a booklet of 16 pages, containing a number of illustrations showing various phases of the industry, and a list of the British Columbia salmon canners, with addresses.

The treatise itself contains considerable information of general interest as to the more important phases of the industry and the canning process, developments in British Columbia, the species and habits of the salmon, food value of the product, etc. Some discussion is also given to frozen salmon, and to British Columbia pilchards and herrings.

Good Run of Cohoes

In the Vancouver Island district in the straits and West Coast sections it is reported that the cohoe salmon un is the best that has been experienced for the past twenty years. On the mainland there have been very few of this variety of salmon packed but the Island canneries are packing a good quantity of them. Apparently from this report the run of cohoes is holding out very well.

Discusses U. S. Tariff

At a recent meeting of the Prince Rupert, B. C., Board of Trade, the position of the Canadian fishing fleet at Prince Rupert in view of the American tariff on halibut, etc., was discussed at length by John Dybhavn, of the Royal Fish company, and others. Mr. Dybhavn said the Canadian fleet had been built up during the last eight years by local investment, during which time Canada levied a duty of 1c per lb. on American halibut coming in, while Canadian halibut entered the United States free. It was felt that the enactment of a 2c duty by the United States was in retaliation for the 1c Canadian duty; but the result was that the local fleet was handicapped, and might have to give up altogether. Mr. Dybhavn thought it possible that if the Canadian duty were removed, the United States might do likewise.

Mr. Stork, member of Parliament for the district, said he had promised to investigate the matter and try to have the duty removed. He added that, on pretext of the American duty, buyers had been paying Canadian boats as much as 4c per lb. less than American boats. He also brought up the demand of salmon fishermen for a duty of more than 2c on American salmon.

Billion Fish Eggs Collected

Fish eggs of different species to the number of more than 1,122,000,000 were collected by the hatcheries branch of the Department of Marine and Fisheries during 1921, according to a report made by the Deputy Minister of Fisheries. In addition to the eggs collected by the department, 600,000 rainbow trout eggs and 980,000 speckled trout eggs were purchased from commercial firms; 507,000 rainbow trout eggs, 200,000 cut-throat trout eggs, 800,000 speckled trout eggs, and 85,000 brown trout eggs were received from federal and state departments of the United States in exchange for Atlantic salmon eggs.

Under an arrangement between the Canadian and United States Governments, the officers of the United States hatchery at Cape Vincent, N.Y., collected whitefish and lake herrings eggs in Canadian waters on the Ontario side of the international boundary line. Of these eggs, 28,215,000 were placed in the Kingsville, Ontario, hatchery. The Dominion Department is also indebted to the Ontario Department of Game and Fisheries for 18,750,000 pickerel eggs collected in Hay bay, Bay of Quinte. These eggs were placed in the hatchery at Thurlow, Ontario, and a portion of the resulting fry were placed at the disposal of the provincial department for stocking waters that are not as readily accessible from its own hatcheries.

A surplus collection of 1,568,000 salmon trout eggs included in the above statement of Dominion collections, from the hatchery at Wiarton, was turned over to the provincial hatchery at Saut Ste. Marie.

These eggs were hatched in the fish hatcheries in different parts of Canada and the fry distributed in the waters which are in process of being rectocked or where new species are being introduced.

Letting Opportunity Slip

It is again noticeable that the Americans come into British Columbia (and in most cases these are brokers who buy for export to Holland or Germany) and buy up a large part of the mild cured salmon. With refrigerator space now available for shipment of this pack of salmon through the Panama Canal there is no reason why this condition should prevail. The packers themselves should be in a position to get the highest possible returns from the natural product of the province and it is poor business to allow others to get the extra profit which might be had by the producers.

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